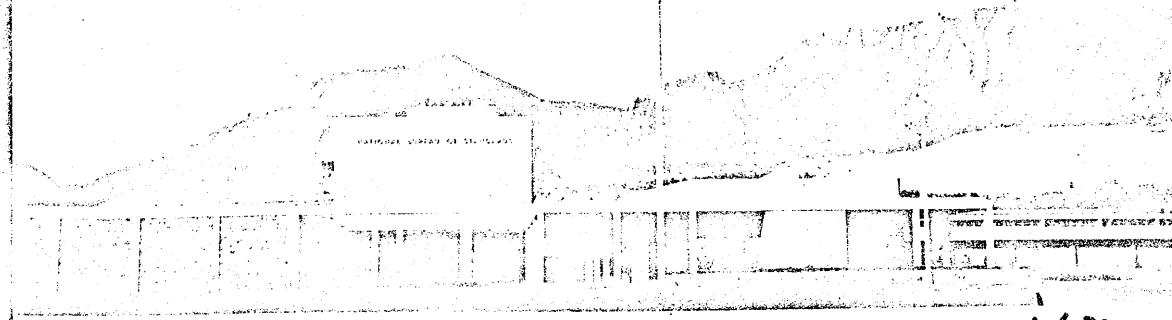

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COMPARATIVE STUDY OF SOLAR INDICES FOR IONOSPHERIC PREDICTIONS

by

Sanford C. Gladden

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
BOULDER LABORATORIES
Boulder, Colorado

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NATIONAL BUREAU OF STANDARDS

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COMPARATIVE STUDY OF SOLAR INDICES FOR IONOSPHERIC PREDICTIONS

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Several indices of solar activity were compared in order to determine their relative advantages for use in long term median ionospheric predictions. The results showed that the 2800 Mc/s solar radio noise power flux, the Zurich relative sunspot number, and the IF2 ionospheric index of solar activity were highly correlated. Sunspot area was also examined. Conclusions of previous studies using more limited amounts of data were compared with these results. Data for the period 1947-1963 were used. Using F2-layer hourly monthly median critical frequency data for six vertical incidence sounding stations, well distributed in latitude, no significant difference was found in correlations with the 2800 Mc/s solar radio noise flux, the Zurich relative sunspot number and the IF2 ionospheric index of solar activity. Comparisons between the 2800 Mc/s solar noise flux with series of measurements at other frequencies indicate a quantitative relationship between the flux at 2800 Mc/s and that at any other frequency, and any carefully corrected series of observations in the 1,000-10,000 Mc/s range can be used to estimate the 2800 Mc/s values.

Introduction

In the study of ionospheric phenomena, it is desirable to have some index of solar activity which is directly related to the variations of the ionosphere over the solar cycle. The usual index employed has been the Zurich relative sunspot number. Although this index is not ideal for the purpose, it is simply obtained, and values are available for several solar cycles.

Long term ionospheric radio propagation predictions are based on the well established correlation between ionospheric parameters and solar activity. The purpose of this investigation is to determine whether one of the newer indices of solar activity that have become available in recent years may be superior to the Zurich relative sunspot number for use in long term median ionospheric predictions. The correlations between various solar indices are investigated, as well as the correlation between monthly median F2-layer critical frequencies and the same solar indices. The most promising of the newer solar indices seem to be observations of solar radio noise power flux and the IF2 index of solar activity based on observations of foF2, and were chosen for this study. Sunspot area was also examined.

Terminology

Rz - Zurich final relative sunspot number.

$\emptyset$ - Solar radio power flux as measured at Ottawa and Traverse, Canada, at 2800 Mc/s (10.7 cm) in watts/m^2/cycle/second bandwidth x 10^{-22} in two polarizations.

IF2 - Ionospheric F2 index of Minnis and Bazzard

A - Monthly mean sunspot area corrected for foreshortening, in millionths of the area of the sun's visible disc, as determined at the Greenwich Observatory.

r - Correlation coefficient.

RMS dev. - Root-mean-square deviation of values from the computed curve.

(Rz_M) - 12-month smoothed mean of Rz.

($\emptyset$) - 12-month smoothed mean of $\emptyset$.

($IF2_M$) - 12-month smoothed mean of IF2.

(Rz_m) - Monthly mean of Rz.

($\emptyset_m$) - Monthly mean of $\emptyset$.

(Rz_d) - Daily value of Rz.

($\emptyset_d$) - Daily value of $\emptyset$.

1. INTERCOMPARISON OF SOLAR INDICES

1.1 INDICES OF SOLAR ACTIVITY

1.1a The Zurich relative sunspot number (Rz).

The relative sunspot number is defined as

$$Rz = K\,(10g + s) \qquad (1)$$

where g is the number of sunspot groups and s is the total number of distinct spots. The scale factor K originally used by R. Wolf of the Swiss Federal Observatory at Zurich was 1.0 but since 1936, 0.60 has been used there. The value of K at other observatories depends on the

observing instrument, average seeing conditions and the observer, and is intended to effect conversion to the scale originated by Wolf. The final Zurich sunspot number is derived from observations at a number of observatories in addition to Zurich. According to Kiepenheuer (1953) the probable error of a single reduced sunspot number is about 15%, and that for monthly or rotational means is between 3% and 5%.

The Zurich sunspot number provides the longest continuous series of any solar index available, about 19 solar cycles, or more than 200 years. Although it is rather arbitrary and artificial, it has proved extremely useful as an index of solar activity in a wide variety of geophysical applications. While 19 solar cycles are a relatively small and inadequate statistical sample, the series of sunspot numbers at present provides the best available statistical basis for predicting future solar activity.

1.1b. Solar radio power flux as measured at Ottawa (Ø).

Solar radio power flux (Ø) has been measured on a regular basis since February 1947 at Ottawa, Canada (since 1962 at Traverse, Canada) at 2800 Mc/s (10.7 cm). Covington (1948, 1951, 1954) has described the experimental procedure, and Medd and Covington (1958) and Covington (1959) have discussed the accuracy of the observations. Considerations of antenna pattern, solar elevation, stability of equipment calibration, etc., must be carefully accounted for if the data are to be used as a reliable index of solar activity. It appears that the individual observations have a probable error of 2% to 3%. The flux is measured in watts/m^2/cycle/sec/bandwidth x 10^{-22}, in two polarizations.

A major advantage of Ø as an index of solar activity is that it is an independently measurable physical quantity. Also, measurements can be made on cloudy days when sunspot observations are not possible. Measurements can be made continuously when the sun is above the horizon. In principle, measurements can be made anywhere, and a suitable world net could provide continuous observation of the sun. Extreme care is required, however, to insure accurate corrected measurements and therefore these observations must be performed by competent technical and scientific personnel at carefully selected low noise sites.

Daily values of Ø have been published in the IAU Quarterly Bulletin on Solar Activity, starting with February 1947, and both daily and monthly mean values have appeared in the CRPL-F series, Part B, Solar-Geophysical Data, since December 1956. A number of other series of observations by various other laboratories, on different frequencies, are also available for shorter time periods.

In the paper by Medd and Covington (1958), attention is directed to the need for corrections to the published values of daily flux (and hence to the monthly mean values) prior to July 1955. The corrected values were obtained from Covington (private communication) and these data have been used in this work, rather than the previously published values.

1.1c. Ionospheric index of solar activity (IF2).

Minnis and Bazzard (1959, 1960) and Bazzard (1960) defined an ionospheric index of solar activity, IF2, that depends on an assumed linear relationship between monthly mean critical frequency, $(foF2_m)$ and monthly mean sunspot number, (Rz_m),

$$(foF2_m) = a_m + b_m\ (Rz_m) \qquad (2)$$

Equation (2) holds for any time of the day at any given location. Given a series of observations of $(foF2_m)$ and the corresponding values of (Rz_m), the values of the constants a_m and b_m can be determined by conventional least squares methods.

Having determined a_m and b_m, we may write equation (2) as

$$R' = [(foF2_m) - a_m] \,/\, b_m \qquad (3)$$

where R' is now an ionospheric index of solar activity determined by $(foF2_m)$.

The value of (IF2), the ionospheric index of solar activity for a given month, is defined as the median of R', determined from equation (3) for about ten ionosphere stations from local noon values of $(foF2_m)$ for that month. The Radio Research Station, Slough, England, publishes monthly values of (IF2).

Since IF2 is based on the noon monthly median foF2 reported by a group of about ten representative ionosphere stations, some delay may be expected in collecting the required data after the end of each month. Also, the continuity of IF2 depends on the continuing operation of the selected set of long established ionosphere stations.

There is evidence of a substantial departure from linearity of the relationship between foF2 and Rz at high solar activity, described by Bennington (1952, 1958) and Ostrow and Dutton (1959). foF2 increases more slowly with sunspot number for values greater than 100 than for values less than 100. Therefore, the IF2 scale is relatively compressed at high solar activity compared to the scale of Ø and Rz.

1.2 PREVIOUS INTERCOMPARISONS OF SOLAR INDICES

A number of intercomparisons of solar indices have been made using relatively short time intervals, only a few of which included numerical determinations of the correlation between indices. Most previously published comparisons were made on a graphical basis.

Denisse (1949), using daily values for the period March-October 1947, compared the Ottawa flux, Ø, with sunspot number, integrated sunspot area (corrected for foreshortening) and a daily index based on the area of individual sunspots and their respective maximum magnetic fields. He obtained correlation coefficients of 0.53, 0.76, and 0.87, respectively. Uncorrected values of Ø were used. Similar values were obtained for a second period, October 1947-December 1948.

Waldmeier and Müller (1950), using uncorrected daily values of Ottawa flux and the Zurich sunspot numbers for 1947 and 1948, fitted a linear equation to the data, with correlation coefficients of 0.73 and 0.82, respectively. Waldmeier (1955) extended the work to cover the period 1947-1953, but did not give correlation coefficients for the extended set of data.

Covington and Medd (1954), using daily values of flux and sunspot area (corrected for foreshortening) for the period 1947-1953, fitted a linear equation to the data, with a correlation coefficient of 0.85. Covington and Harvey (1960), using daily values of flux and sunspot area for the period May-November 1952 obtained results similar to those of Covington and Medd.

Tandberg-Hanssen (1955) compared daily values of flux at various frequencies with sunspot area for the period January 1950-July 1951. Using graphical methods, he obtained a linear relation between the uncorrected Ottawa 2800 Mc/s flux and sunspot area.

Ward and Shapiro (1962) stated that the correlation between radio noise at 2800 Mc/s and the Greenwich sunspot area is almost unity, but did not present the data on which this was based.

Das Gupta and Basu (1962) using daily values of sunspot number and flux at various frequencies for the period July 1957-December 1958, published graphical comparisons which indicated good correlation.

Kundu and Denisse (1958) and Kundu (1963) graphically compared the E layer index (IE) with 10.7 cm flux, monthly Zurich sunspot number and IF2, but gave no correlation coefficients. The graphs indicated good correlation.

1.3 INTERCOMPARISON OF SUNSPOT NUMBER, SOLAR NOISE FLUX AND IF2.

In the past, statistical intercomparisons between various solar indices have been made with relatively short time runs of data. In this study, use of the computer facility at the Boulder Laboratories of the National Bureau of Standards made it possible to include all available data in the work. Since this work is concerned primarily with relatively long time period relationships, the larger available sample size was advantageous.

Data used were:

a. Final daily and monthly mean Zurich relative sunspot numbers (Rz) for January 1947 through December 1962.

b. Corrected daily and monthly mean values of Ottawa flux (Ø) for February 1947 through May 1963.

c. Monthly values of IF2 reported by the Radio Research Station, Slough, for January 1947 through May 1963.

d. Monthly mean values of sunspot area corrected for foreshortening (A), as reported by Greenwich Observatory for January through December 1957.

e. 12-month smoothed means of the Zurich relative sunspot number for January 1947 through December 1962. Also 12-month smoothed means for Ø and IF2.

The following correlations were made:

1. 12-month smoothed means of Ø and Rz, IF2 and Ø, IF2 and Rz.

2. Monthly mean values of Ø and Rz, IF2 and Ø, IF2 and Rz.

3. Daily values of Ø and Rz. (Since IF2 is a monthly number only; the effects of disturbances, etc., do not permit a reliable daily IF2.)

4. Monthly mean values of Ø and A, IF2 and A, Rz and A.

All the correlations were first made using all the data available. Then, with the exception of the correlations with sunspot area, the data were divided into three groups and correlations were made separately for decreasing and increasing phases of the one and one-half solar cycles covered (decreasing May 1947-April 1954; increasing April 1954-March 1958; decreasing March 1958 to the date of the latest available data).

For all pairs of indices, several different functions were tried -- linear, semi-logarithmic, logarithmic, squared values of Y and/or X, and polynomials of first, second and third degree. Polynomials of

higher than second degree did not give significantly better fit to the data in any case.

Among other results, the correlation coefficient and the root-mean-square deviation of the dependent variable from the computed relation were calculated for each function tested. In each case the best correlation, defined as the one giving the highest correlation coefficient and the smallest RMS deviation, was selected for tabulation (see Tables 1.1 through 1.3). The correlation coefficient was rounded off to the nearest hundredth.

Table 1.4 is a tabulation of the results of all correlations made between monthly values of IF2 and $\emptyset$, as an example of the variety of functional relationships tried.

1.3a 12-month smoothed means of $\emptyset$ and Rz, IF2 and $\emptyset$, IF2 and Rz.

A linear correlation was obtained between the 12-month smoothed means of $\emptyset$ and Rz. Using all data, the relation was

$$(\emptyset_M) = 0.91\ (Rz_M) + 58.3 \qquad (4)$$

for the regression of $(\emptyset_M)$ on (Rz_M). The correlation coefficient is 1.00 and the deviation of $(\emptyset_M)$ is 4.6.

A second degree equation represented the relation between the 12-month smoothed means of IF2 and $\emptyset$, of the form (for all data) of

$$(IF2_M) = 2.61\ (\emptyset_M) - 5.0 \times 10^{-3}\ (\emptyset_M)^2 - 161.5 \qquad (5)$$

for the regression of $(IF2_M)$ on $(\emptyset_M)$. Here the correlation coefficient is 1.00 and the deviation of IF2 is 6.9.

A second degree relationship was also found between the 12-month smoothed means of IF2 and Rz, with the form (for all data used) of

$$(IF2_M) = 1.55\ (Rz_M) - 2.7 \times 10^{-3}\ (Rz_M)^2 - 17.00 \qquad (6)$$

for the regression of IF2 on Rz. The correlation coefficient is 1.00 and the deviation of IF2 is 0.7. In all such equations quoted below, the regression is on the variable on the right.

Table 1.1 lists the pertinent results for the intercomparisons of the 12-month smoothed mean relationships for all data and for the separate rising and declining parts of the one and one-half solar cycles. Figure 1.1 presents a graphical comparison between the 12-month smoothed means of IF2, $\emptyset$, and Rz. It is to be noted that the variations in $(\emptyset_M)$ follow almost precisely those in (Rz_M). Figures 1.2a-1.2d, 1.3a-1.3d, and 1.4a-1.4d are mass plots of the data, with

the curves of the appropriate equations superimposed.

The relationships for the separate declining and rising phases of the solar cycle do not appear to differ significantly from the relationship for the entire period. The IF2-Rz relationship exhibits a smaller RMS deviation than those for the other two pair, which is not surprising when we consider the derivation of IF2.

Correlations of different solar indices using 12-month smoothed means apparently have not been previously made, probably because relatively short runs of data were used in previous studies. It was therefore not possible to compare these results with those of other workers.

1.3b. Monthly mean values of ϕ and Rz, IF2 and ϕ, IF2 and Rz.

A linear correlation was obtained between the monthly mean values of ϕ and Rz. Using all data, the form of the relation was

$$(\phi_m) = 0.91\ (Rz_m) + 58.8 \tag{7}$$

with a correlation coefficient of 0.98 and deviation of (ϕ_m) of 11.4

Linear relationships were also found for the correlation between monthly means of ϕ and Rz for the separate rising and declining portions of the solar cycle. For May 1947 to April 1954, the equation was

$$(\phi_m) = 0.87\ (Rz_m) + 59.1 \tag{8}$$

with correlation coefficient of 0.98 and deviation of (ϕ_m) of 9.9. For April 1954 to March 1958, the equation was

$$(\phi_m) = 0.88\ (Rz_m) + 63.0 \tag{9}$$

with correlation coefficient of 0.99 and deviation of (ϕ_m) of 9.2. For March 1958 to December 1962, the equation was

$$(\phi_m) = 0.96\ (Rz_m) + 54.2 \tag{10}$$

with correlation coefficient of 0.99 and deviation of (ϕ_m) of 7.1.

Figures 1.5a and 1.5d show mass plots of the data with the appropriate equations superimposed.

A second degree equation represented the relation between monthly values of IF2 and ϕ. Using all data, the equation was

$$IF2 = 2.72\ (\phi_m) - 5.4 \times 10^{-3}(\phi_m)^2 - 167.1 \tag{11}$$

with correlation coefficient of 0.97 and deviation IF2 of 6.6.

Minnis and Bazzard (1959), using monthly values of IF2 and $\emptyset$ for the period 1948-1957, which included a declining part of solar cycle 18 and a rising part of cycle 19, obtained the relation,

$$IF2 = 2.34\ (\emptyset_m) - 4.5 \times 10^{-3}(\emptyset_m)^2 - 142. \qquad (12)$$

No correlation coefficient was given by the authors. Equation (11) differs significantly from equation (12), particularly for higher values of $\emptyset$. For the period May 1947-April 1954 (the declining part of cycle 18) we found

$$IF2 = 3.07\ (\emptyset_m) - 6.6 \times 10^{-3}(\emptyset_m)^2 - 186.2 \qquad (13)$$

with correlation coefficient of 0.96 and deviation of IF2 of 8.6.

For the period April 1954-March 1958 (the rising part of cycle 19), we found

$$IF2 = 2.45\ (\emptyset_m) - 4.4 \times 10^{-3}(\emptyset_m)^2 - 156.3 \qquad (14)$$

with correlation coefficient of 0.99 and deviation of IF2 of 17.7.

Equation (12), given by Minnis and Bazzard, and those presented here, (11), (13), and (14), are superposed on the mass plots of data, figures 1.6a, 1.6b, and 1.6c. It should be noted that the values obtained from (12) are too low for values of $\emptyset$ above about 150, while those obtained from equations (11), (13), and (14) fit the data better. The differences are greater than the RMS deviation at high solar activity. The Minnis and Bazzard curve was omitted from figure 1.6d, for the period March 1958 to May 1963, because they did not use these data. The equation for this period was

$$IF2 = 2.48\ (\emptyset_m) - 4.7 \times 10^{-3}(\emptyset_m)^2 - 150.7 \qquad (15)$$

with correlation coefficient of 0.98 and deviation of IF2 of 7.5.

A second degree correlation was also obtained between monthly values of IF2 and Rz. Using all data, we obtained the relation

$$IF2 = 1.64\ (Rz_m) - 3.3 \times 10^{-3}(Rz_m)^2 - 17.98 \qquad (16)$$

with a correlation coefficient of 0.95 and deviation of IF2 of 0.95. Similar relations for the declining and rising portions of the solar cycle are listed in table 1.2. Mass plots of $(IF2_m)$ against (Rz_m) are presented in figures 1.7a to 1.7d, with appropriate curves superimposed.

Similar comparisons of monthly values of $\emptyset$, IF2, and Rz made by others, for example by Waldmeier (1955) and Minnis and Bazzard (1959), are in good agreement with our results.

1.3c Daily values of $\emptyset$ and Rz.

A linear correlation was obtained between daily values of $\emptyset$ and Rz. Using all data, we obtained the relation,

$$(\emptyset_d) = 0.84\ (Rz_d) + 65.1 \qquad (17)$$

with correlation coefficient of 0.95 and deviation of $(\emptyset_d)$ of 32.6.

Table 1.3 lists the numerical results for all data, and for the separate declining and rising parts of the solar cycles.

Waldmeier and Müller (1950), using uncorrected daily values of $\emptyset$ and Rz for 1947 and 1948, found a linear relation of the form

$$(\emptyset_d) = 193.9 + 1.33\ (Rz_d) \qquad (18)$$

and a second degree equation of the form,

$$(\emptyset_d) = 259.2 + 0.44\ (Rz_d) + 0.0027 \qquad (19)$$

with correlation coefficients of 0.73 and 0.82 respectively. These do not agree with those presented here using all data, or using data for the declining part of cycle 18,

$$(\emptyset_d) = 0.81\ (Rz_d) + 64.8 \qquad (20)$$

with correlation coefficient of 0.95 and deviation of $(\emptyset_d)$ of 35.1. The difference is probably due to the use by Waldmeier and Müller of uncorrected values of $\emptyset$ and the relatively short run of data.

Covington and Medd (1954) determined the correlation coefficient between daily values of $\emptyset$ and Rz for the period 1947-1953, and obtained a correlation coefficient of 0.85. They also found the correlation coefficient for each of the seven years taken separately to lie between 0.76 and 0.95.

Graphical comparisons were made of daily values of $\emptyset$ and Rz by Covington (1948) for the period February-September 1947, and by Waldmeier and Müller (loc.cit.) for 1948. Nicolet (1963) made a number of graphical comparisons of $\emptyset$ and Rz, using 27-day averages.

It seems likely that the correlation coefficients in our results are appreciably higher than previous results because we used corrected values of $\emptyset$, as well as longer runs of data that would tend to obscure poorer correlation in short time periods.

1.3d Comparison of solar indices with sunspot area.

Tandberg-Hanssen (1955), using daily values of ϕ and A for the period January 1950-July 1951, obtained the relation,

$$(\phi_d) = 70 + 0.025\ A \qquad (21)$$

but gave no correlation coefficient. He also used the published uncorrected values of ϕ.

Allen (1957) correlated solar flux at 2800, 1200, and 600 Mc/s with sunspot numbers, sunspot areas, and faculae areas for the period 1947-1954. The correlations were made between the departures of data from smoothed means. Data used were for the period 1947-1954. He used the uncorrected values of 2800 Mc/s flux. Although primarily concerned with separating the variation with phase of solar activity of radiation from the quiet sun from the slowly varying component, his results also show good correlation of ϕ and R.

Using monthly mean values of sunspot area corrected for foreshortening (A) for the period January 1947 through December 1957, as measured at the Greenwich Observatory, we made correlations between the three solar indices and A. The relations were generally linear and correlation coefficients were well above 0.90. Since these results were in general agreement with previous work, and since the sunspot area did not seem to offer any advantages over the other three indices considered, further work with sunspot area as an index of solar activity for ionospheric work was abandoned.

2. SOLAR RADIO POWER FLUX AT DIFFERENT FREQUENCIES.

Solar radio noise power flux measurements are considered one of the best indices of solar activity for many solar-geophysical applications, including ionospheric variations, since this is a direct measurement of an actual physical quantity. Also, observations can be made on cloudy days as well as clear days. However, the precise measurement of the received solar radio noise power flux at a given frequency is subject to all the difficulties of making absolute radio power flux measurements of low intensity signals. Extreme care must be taken to choose a low noise site and to assure continued stability of the entire receiving system, including antennas and circuits, to make appropriate corrections for the receiving antenna radiation pattern and solar elevation, etc. At any given location, observations can only be made while the sun is above the horizon, but, in principle, it should be possible to combine measurements at different locations around the earth into a continuous series of observations covering all 24 hours of the day.

Several laboratories in various countries have been making regular observations of solar radio noise at different frequencies, for a varying number of years, and a more complete world network is being established for continuous and coordinated measurements. Until a world network is operational and well established, it seems best to use the series of Ottawa measurements on 2800 Mc/s for reference because it is the longest as well as one of the most consistent and carefully corrected series available.

The graphical comparison of daily values for the period July-December 1957, made by Tanaka and Kakinuma (1958), was the only example of previous intercomparison of solar radio power flux at different frequencies found by the author in the literature.

It has been established that monthly average solar radio power flux at different frequencies observed at different locations are well correlated. In order to determine the practical feasibility of converting the various series of observations to the scale of the Ottawa 2800 Mc/s observations, all available series of observations in the frequency range of 1,000 to 10,000 Mc/s were compared with the Ottawa 2800 Mc/s series. For this purpose, the monthly means of solar radio power flux on frequencies other than 2800 Mc/s were computed from the daily values published in the IAU Quarterly Bulletin on Solar Activity.

In each case, an equation of the form

$$\phi_{2800} = A\,\phi_f + B \qquad (22)$$

was obtained, where ϕ_{2800} is the Ottawa 2800 Mc/s monthly mean flux, ϕ_f is the monthly mean flux at frequency f Mc/s, and A and B are constants. In most cases the correlation coefficient, r, was high. It is believed that the lower correlations probably indicate relatively poorer quality data. Also, the sets of data with lower correlations generally had fewer days of observation per month. The results are summarized in Table 2.1, and the coefficients A and B are plotted against frequency in Figures 2.1 and 2.2.

Although expressions for the frequency dependence of the parameters A and B can be derived, the small number of cases and the relatively large scatter of the values would make such expressions of dubious practical value. It may be concluded, however, that each series can be reliably converted to the Ottawa 2800 Mc/s scale by use of the appropriate expression, and that any new set of observations should also be convertible after a few months of observations become available to establish the relationship. For this purpose, stable systematic errors in measurement or correction of observed data are not important.

Progress is constantly being made in the field of standardizing solar radio noise power flux observations and in expanding the world network of observations. The Ottawa 2800 Mc/s observations now provide a good index of solar activity which can be used for ionospheric predictions. The expanding world network will provide insurance for continuity of the index in case of accident at Ottawa. Also, it is possible to establish new observing stations at any desired location for prompt information on current solar activity. These observations can be made on cloudy days, when poor visibility would prevent observation of sunspots. Since recording is continuous, a future possibility may be automatic digitalizing of the data.

3. foF2 VARIATIONS COMPARED WITH DIFFERENT SOLAR INDICES.

3.1 PREVIOUS WORK

Smith, Gilliland and Kirby (1938) first demonstrated the variation of foF2 and other ionospheric characteristics with solar activity. Phillips (1947) made use of an assumed linear relationship between 12-month smoothed means of foF2 and Rz, using noon and midnight values of foF2 for Washington, D. C., Huancayo, Peru, and Watheroo, Western Australia, as examples. She suggested the use of ionospheric critical frequencies as a measure of solar activity and presented nomograms to derive an "ionospheric sunspot number" from foF2. This was a forerunner of the present IF2 index.

Bennington (1952) compared 12-month running means of foF2 and Rz, using data from Slough, England; Washington, D. C.; Canberra, Australia; and Christchurch, New Zealand. He fitted two straight lines to each set of data, one for values of Rz less than 100 and another for Rz greater than 100. In a later paper (1958) he discussed the apparent saturation effect in the F2 ionization occurring for values of Rz and above 100.

Ostrow and PoKempner (1952) discussed the differences between the linear relation between foF2 and sunspot number for different sunspot cycles. A linear fit was made between monthly median noon and midnight values of foF2 and monthly mean sunspot number for Washington and Watheroo, with different lines found for different solar cycles. The departure from linearity for values of Rz above 100 is apparent in their graphs.

Ostrow and Dutton (1959) showed that a second degree relationship between foF2 and Rz was superior to the linear relationship in most cases. They also suggested that the linear relationship could be improved if it was assumed that all values of Rz greater than 150 were taken as equal to 150. This suggestion was adopted for use in CRPL ionospheric predictions during the high part of solar cycle 19 in order

to compensate, in part, for the decrease in slope observed at high solar activity.

3.2 COMPARISON OF THE RELATIONSHIP BETWEEN foF2 AND Ø, Rz AND IF2.

We have established that the three indices of solar activity under consideration, Ø, Rz, and IF2, are highly correlated, and that therefore, it should be possible to use them interchangeably over periods of half a solar cycle or longer. In order to determine whether any of the three indices might be appreciably better for ionospheric predictions and correlations, the variations of foF2 observed at a number of locations were compared with each of the three indices of solar activity.

Monthly median values of foF2 for each hour of the day and each month of the year were used and compared with monthly and 12-month smoothed means of each of the three indices of solar activity. Correlation coefficients, RMS deviations, and the regression equations of monthly median foF2 on the solar index were calculated in each case for the linear, second and third degree expressions. In general, the second degree equation gave a somewhat higher correlation coefficient and a somewhat lower RMS deviation than the linear, and the third degree relationship was not significantly better than the second.

The ionosphere stations were chosen to be representative of auroral zone, high, medium and low latitudes. All available data for the period 1947-1963 were used from Tromso, Norway; Fairbanks, Alaska; Washington, D. C.; Maui, Hawaii; Huancayo, Peru; and Christchurch, New Zealand.

A typical example, presented in figures 3.1 through 3.3, shows that the second degree equation fits the data for Rz and Ø but an excellent linear relation holds between median foF2 and IF2.

The results of the comparisons for the six stations are summarized in tables 3.1 through 3.12. Averages of the correlation coefficient and RMS deviation for all 24 hours of each month are tabulated for the linear and second degree relationship, for monthly and 12-month smoothed means of the three solar indices. It is obvious from these tables that there is very little difference, on the average, between the relationships using monthly mean or 12-month smoothed means. Also, the difference between the three different solar indices are probably not significant. Since the noon foF2 data from Washington, Huancayo and Christchurch are used to derive the IF2 index, it is not surprising that the IF2 relationships show slightly better correlation coefficients and RMS deviations; but even these are probably not significantly better than the others.

In addition, the individual hourly values of correlation coefficients and RMS deviations are tabulated for each of the stations for the months March, June, September, and December, chosen to represent the four seasons. These values are presented in tables 3.13 through 3.60. They confirm the general conclusion that the difference between three indices are probably not significant. They also show that significant diurnal, seasonal, and geographical variations in the relationships with a given solar index exist. Also, the improvement of the second degree over the first degree relationship of foF2 with $\emptyset$ or Rz tends to be more marked for certain hours and seasons, and insignificant for others for a given location.

The relationships are very similar whether twelve month smoothed means or monthly means of the solar indices are used. For relatively long term predictions, the smoothed mean is easier to predict, and is the best estimate now available for the monthly number.

CONCLUSIONS

1. Since the three solar indices, $\emptyset$, Rz, and IF2, are highly correlated with each other, and give essentially the same correlations with ionospheric variations, the decision on which to use for ionospheric predictions should be based on considerations of operational convenience and real time availability of current data. It should be noted that this has been established for relatively long time periods, of the order of half a solar cycle or more. The situation for short time periods requires further investigation.

2. The Zurich sunspot number series is the only one of the three solar activity indices long enough to provide anything approaching an adequate statistical basis for prediction. However, assuming the high correlation between Rz, $\emptyset$, and IF2 to hold for earlier years, the series of $\emptyset$ and IF2 can be extended to the period covered by Rz by using the relations presented in this report.

3. Since IF2 is based on monthly median noon foF2 from a number of ionosphere stations, daily values of IF2 are not available to observe current trends of activity. There is some delay after the end of each month before IF2 becomes available, because of the time needed to collect the required noon median foF2 data at the Radio Research Station, Slough, from about ten ionosphere stations. Therefore, although IF2 tends to provide slightly better correlations with foF2 than $\emptyset$ or Rz, it is not suitable when day-to-day revisions of expected solar activity from current trends are required.

4. Observations of sunspot number at any given location are dependent on visual seeing conditions during the day. Solar radio noise observations are not affected by cloud cover. Daily values of both can be readily available to keep track of current trends, but

observations from two or more, well separated observatories are advisable, particularly if current monitoring is desired, to assure continuity of observations.

5. Either sunspot number, IF2, or solar radio noise observations are suitable for use in long term predictions of average ionospheric characteristics. Current CRPL ionospheric prediction methods make use of the Zurich sunspot number. Since at this time, neither IF2 or $\emptyset$ seem to offer any marked advantages, we conclude that Zurich sunspot number should continue to be used, in order to avoid the rather extensive amount of work required to modify the prediction system for another index of solar activity. If current and future work establish that another solar index is definitely superior to Rz for purposes of short time predictions and disturbance forecasting, it may then become desirable to use the same index for the basic long-term ionosphere predictions.

6. These conclusions apply primarily to the use of the solar indices in long term ionospheric predictions. Considerably more research is required to develop the information needed to use solar indices in quantitative, short time ionospheric predictions.

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TABLE 1.1

12-MONTH SMOOTHED MEANS

Ottawa Flux (ϕ) and Zurich Sunspot Number (Rz)

Period	No. of values	Correl. Coeff.	RMS dev.	Equation
May 47-Dec.62	179	1.00	4.6	$(\phi_M) = 0.91\ (Rz_M) + 58.3$
May 47-Apr.54	81	1.00	4.3	$(\phi_M) = 0.87\ (Rz_M) + 59.4$
Apr.54-Mar.58	48	1.00	3.3	$(\phi_M) = 0.88\ (Rz_M) + 62.8$
Mar.58-Dec.62	52	1.00	1.2	$(\phi_M) = 0.97\ (Rz_M) + 53.2$
				Ionospheric Index (IF2) and Ottawa flux (ϕ)
Feb.47-May 63	184	1.00	6.9	$IF2 = 2.61\ (\phi_M) - 5.0 \times 10^{-3}\ (\phi_M)^2 - 161.5$
May 47-Apr.54	81	1.00	5.1	$IF2 = 2.87\ (\phi_M) - 5.9 \times 10^{-3}\ (\phi_M)^2 - 177.3$
Apr.54-Mar.58	48	1.00	0.8	$IF2 = 2.35\ (\phi_M) - 4.1 \times 10^{-3}\ (\phi_M)^2 - 149.0$
Mar.58-May 63	57	1.00	1.3	$IF2 = 2.03\ (\phi_M) - 3.3 \times 10^{-3}\ (\phi_M)^2 - 117.3$
				Ionospheric Index (IF2) and Zurich Sunspot Number (Rz)
Jan.47-Dec.62	186	1.00	0.7	$IF2 = 1.55\ (Rz_M) - 2.7 \times 10^{-3}\ (Rz_M)^2 - 17.00$
May 47-Apr.54	84	1.00	0.7	$IF2 = 1.29\ (Rz_M) - 0.8 \times 10^{-3}\ (Rz_M)^2 - 13.49$
Apr.54-Mar.58	48	1.00	0.7	$IF2 = 1.40\ (Rz_M) - 2.2 \times 10^{-3}\ (Rz_M)^2 - 11.78$
Mar.58-Dec.62	52	1.00	1.6	$IF2 = 1.63\ (Rz_M) - 3.1 \times 10^{-3}\ (Rz_M)^2 - 18.65$

TABLE 1.2

MONTHLY VALUES

Ottawa Flux (ϕ) and Zurich Sunspot Number (Rz)

Period	No. of values	Correl. Coeff.	RMS dev.	Equation
Feb.47-Dec.62	191	0.98	11.4	$(\phi_m) = 0.91\ (Rz_m) + 58.8$
May 47-Apr.54	84	0.98	9.9	$(\phi_m) = 0.87\ (Rz_m) + 59.1$
Apr.54-Mar.58	48	0.99	9.2	$(\phi_m) = 0.88\ (Rz_m) + 63.0$
Mar.58-Dec.62	49	0.99	7.1	$(\phi_m) = 0.96\ (Rz_m) + 54.2$
Ionospheric Index (IF2) and Ottawa Flux (ϕ)				
Feb.47-May 63	196	0.97	6.6	$IF2 = 2.72\ (\phi_m) - 5.4 \times 10^{-3}\ (\phi_m)^2 - 167.1$
May 47-Apr.54	84	0.96	8.6	$IF2 = 3.07\ (\phi_m) - 6.6 \times 10^{-3}\ (\phi_m)^2 - 186.2$
Apr.54-Mar.58	48	0.99	17.7	$IF2 = 2.45\ (\phi_m) - 4.4 \times 10^{-3}\ (\phi_m)^2 - 156.3$
Mar.58-May 63	63	0.98	7.5	$IF2 = 2.48\ (\phi_m) - 4.7 \times 10^{-3}\ (\phi_m)^2 - 150.7$
Ionospheric Index (IF2) and Zurich Sunspot Number (Rz)				
Jan.47-Dec.62	192	0.97	7.35	$IF2 = 1.64\ (Rz_m) - 3.3 \times 10^{-3}\ (Rz_m)^2 - 17.98$
May 47-Apr.54	84	0.95	16.72	$IF2 = 1.64\ (Rz_m) - 3.1 \times 10^{-3}\ (Rz_m)^2 - 17.66$
Apr.54-Mar.58	48	0.99	10.34	$IF2 = 1.47\ (Rz_m) - 2.6 \times 10^{-3}\ (Rz_m)^2 - 14.46$
Mar.58-Dec.62	58	0.96	4.67	$IF2 = 1.76\ (Rz_m) - 3.8 \times 10^{-3}\ (Rz_m)^2 - 23.05$

TABLE 1.3

DAILY VALUES

Ottawa Flux ($\emptyset$) and Zurich Sunspot Number (Rz)

Period	No. of values	Correl. Coeff.	RMS dev.	Equation
Feb.47-Dec.62	5165	0.95	32.6	$(\emptyset_d) = 0.84\ (Rz_d) + 65.1$
May 47-Apr.54	2064	0.95	35.1	$(\emptyset_d) = 0.81\ (Rz_d) + 64.8$
Apr.54-Mar.58	1367	0.97	28.6	$(\emptyset_d) = 0.83\ (Rz_d) + 67.9$
Mar.58-Dec.62	1736	0.96	23.3	$(\emptyset_d) = 0.86\ (Rz_d) + 65.7$

TABLE 1.4

MONTHLY VALUES IF2, ϕ

Comparisons of all Correlations

Period	Correl. Coeff.	RMS dev.	Equation
Feb.47-May 63	0.79	3.4	$\sqrt{IF2} = 0.07\ (\phi_m) - 2.25$
	0.89	30.0	$IF2 = 0.003\ (\phi_m)^2 + 19.2$
	0.94	21.8	$IF2 = 1.02\ (\phi_m)^2 - 54.6$
	0.96	18.2	$IF2 = 25.1\ \sqrt{(\phi_m)} - 202.2$
	0.97	15.8	$IF2 = 148.1\ \ln\ (\phi_m) - 630.1$
	0.97	6.6	$IF2 = 2.72\ (\phi_m) - 5.4 \times 10^{-3}\ (\phi_m) - 167.1$
	0.91	4931.5	$(IF2)^2 = 0.58\ (\phi_m)^2 - 1349.2$
	0.94	4155.1	$(IF2)^2 = 190.8\ (\phi_m) - 14{,}648.0$
	0.81	0.73	$\ln IF2 = 0.017\ (\phi_m) + 1.64$
	0.88	0.60	$\ln IF2 + 2.57\ \ln\ (\phi_m) - 8.46$

TABLE 2.1

Results of Correlations of Observation of Solar Radio Noise Flux Observations on Different Frequencies with Ottawa 2800 Mc/s Observations Using the Relationship $\emptyset_{2800} = A\,\emptyset_f + B$.

Frequency (Mc/s)	Location	A	B	r	RMS dev.
1,000	Nagoya	+1.80	+5.0	0.98	1.3
1,200	Sydney	+3.77	-38.0	0.77	27.4
1,420	Sydney	-0.15	+225.1	0.78	1.2
1,500	Berlin	+0.94	+56.0	0.66	37.6
2,000	Nagoya	+1.30	+7.6	0.99	0.6
2,800	Ottawa	+1.00	0.0	1.00	
3,000	Tokyo	+0.80	+8.0	0.94	16.9
3,750	Nagoya	+1.12	-25.9	0.99	3.8
9,400	Nagoya	+1.53	-285.7	0.94	11.9
9,500	Tokyo	+1.17	-286.6	0.97	8.2

TABLE 3.1

Tromso Median foF2, 12-month Smoothed Means Ø, Rz, IF2

	Ø Linear		Ø 2nd Degree		Rz Linear		Rz 2nd Degree		IF2 Linear		IF2 2nd Degree	
	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.
Jan.	0.95	0.47	0.96	0.41	0.94	0.52	0.95	0.44	0.92	0.62	0.95	0.41
Feb.	0.92	0.54	0.96	0.43	0.93	0.53	0.95	0.45	0.93	0.50	0.95	0.46
Mar.	0.93	0.55	0.97	0.39	0.93	0.54	0.97	0.42	0.95	0.45	0.96	0.41
Apr.	0.95	0.46	0.98	0.32	0.95	0.44	0.97	0.35	0.97	0.36	0.97	0.34
May	0.90	0.47	0.91	0.36	0.91	0.45	0.94	0.36	0.92	0.40	0.96	0.37
June	0.85	0.48	0.92	0.37	0.85	0.47	0.91	0.38	0.86	0.44	0.90	0.38
July	0.96	0.26	0.98	0.18	0.97	0.24	0.99	0.17	0.97	0.21	0.98	0.17
Aug.	0.89	0.50	0.95	0.37	0.89	0.50	0.95	0.38	0.93	0.42	0.94	0.38
Sept.	0.92	0.48	0.94	0.43	0.93	0.47	0.94	0.43	0.94	0.41	0.95	0.40
Oct.	0.96	0.59	0.97	0.56	0.94	0.57	0.94	0.54	0.93	0.65	0.94	0.55
Nov.	0.92	0.61	0.95	0.55	0.92	0.61	0.95	0.53	0.90	0.71	0.94	0.58
Dec.	0.95	0.46	0.95	0.44	0.92	0.49	0.93	0.45	0.93	0.59	0.95	0.48
MEAN	0.93	0.49	0.95	0.40	0.92	0.48	0.95	0.41	0.93	0.48	0.95	0.41

TABLE 3.2

Tromso Median foF2, Monthly Values Ø, Rz, IF2

	Ø Linear		Ø 2nd Degree		Rz Linear		Rz 2nd Degree		IF2 Linear		IF2 2nd Degree	
	Mean Corr. Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.
Jan.	0.94	0.47	0.95	0.45	0.95	0.48	0.98	0.46	0.95	0.48	0.97	0.35
Feb.	0.93	0.56	0.95	0.49	0.91	0.63	0.93	0.57	0.94	0.47	0.95	0.45
Mar.	0.91	0.61	0.98	0.33	0.95	0.51	0.97	0.38	0.96	0.43	0.97	0.39
Apr.	0.95	0.44	0.98	0.32	0.88	0.65	0.91	0.65	0.97	0.34	0.98	0.32
May	0.89	0.49	0.92	0.42	0.92	0.43	0.93	0.40	0.93	0.38	0.94	0.35
June	0.91	0.30	0.95	0.26	0.96	0.24	0.97	0.21	0.85	0.41	0.90	0.37
July	0.96	0.25	0.99	0.17	0.96	0.26	0.98	0.19	0.98	0.16	0.99	0.14
Aug.	0.97	0.29	0.99	0.19	0.99	0.28	0.98	0.23	0.94	0.42	0.94	0.38
Sept.	0.93	0.47	0.96	0.38	0.94	0.44	0.96	0.38	0.96	0.36	0.96	0.34
Oct.	0.94	0.70	0.95	0.53	0.91	0.75	0.95	0.56	0.94	0.58	0.95	0.51
Nov.	0.93	0.67	0.93	0.63	0.91	0.69	0.92	0.66	0.90	0.66	0.95	0.51
Dec.	0.93	0.39	0.93	0.37	0.93	0.43	0.93	0.40	0.91	0.58	0.93	0.46
MEAN	0.93	0.47	0.96	0.38	0.93	0.48	0.95	0.42	0.94	0.44	0.95	0.38

TABLE 3.3

Fairbanks Median foF2, 12-month Smoothed Means Ø, Rz, IF2

	Ø Linear		Ø 2nd Degree		Rz Linear		Rz 2nd Degree		IF2 Linear		IF2 2nd Degree	
	Mean Corr. Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.
Jan.	0.91	0.44	0.94	0.39	0.89	0.51	0.92	0.44	0.85	0.60	0.90	0.47
Feb.	0.82	0.63	0.85	0.54	0.80	0.68	0.83	0.62	0.81	0.62	0.82	0.61
Mar.	0.82	0.72	0.92	0.49	0.90	0.56	0.92	0.50	0.89	0.52	0.90	0.51
Apr.	0.88	0.56	0.92	0.47	0.91	0.50	0.92	0.45	0.91	0.47	0.91	0.46
May	0.85	0.44	0.87	0.41	0.88	0.41	0.89	0.39	0.87	0.40	0.87	0.39
June	0.80	0.44	0.89	0.34	0.84	0.39	0.90	0.33	0.85	0.35	0.88	0.32
July	0.86	0.40	0.94	0.29	0.89	0.37	0.94	0.29	0.91	0.32	0.93	0.28
Aug.	0.94	0.30	0.97	0.23	0.95	0.27	0.97	0.22	0.96	0.23	0.96	0.22
Sept.	0.91	0.50	0.93	0.45	0.91	0.49	0.92	0.46	0.92	0.44	0.92	0.43
Oct.	0.94	0.53	0.94	0.52	0.93	0.56	0.93	0.55	0.91	0.62	0.93	0.55
Nov.	0.91	0.60	0.91	0.59	0.90	0.63	0.91	0.60	0.89	0.67	0.92	0.56
Dec.	0.89	0.54	0.92	0.50	0.88	0.55	0.91	0.50	0.84	0.61	0.89	0.53
MEAN	0.88	0.49	0.92	0.44	0.89	0.49	0.91	0.45	0.88	0.49	0.90	0.44

TABLE 3.4

Fairbanks Median foF2, Monthly Values Ø, Rz, IF2

	Ø Linear		Ø 2nd Degree		Rz Linear		Rz 2nd Degree		IF2 Linear		IF2 2nd Degree	
	Mean Corr. Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.
Jan.	0.90	0.53	0.92	0.47	0.90	0.55	0.92	0.48	0.87	0.51	0.92	0.38
Feb.	0.80	0.62	0.83	0.57	0.80	0.70	0.82	0.67	0.84	0.52	0.85	0.52
Mar.	0.86	0.68	0.93	0.45	0.87	0.61	0.91	0.50	0.92	0.46	0.92	0.46
Apr.	0.91	0.50	0.94	0.41	0.88	0.56	0.88	0.55	0.95	0.39	0.96	0.34
May	0.84	0.46	0.86	0.44	0.87	0.42	0.87	0.42	0.90	0.35	0.91	0.34
June	0.80	0.44	0.86	0.37	0.85	0.38	0.89	0.34	0.88	0.32	0.90	0.30
July	0.89	0.38	0.94	0.30	0.90	0.36	0.93	0.30	0.94	0.27	0.94	0.26
Aug.	0.93	0.33	0.97	0.24	0.94	0.32	0.96	0.27	0.97	0.22	0.97	0.21
Sept.	0.90	0.52	0.95	0.41	0.92	0.47	0.95	0.40	0.94	0.39	0.95	0.37
Oct.	0.94	0.50	0.96	0.44	0.93	0.57	0.94	0.52	0.93	0.53	0.94	0.47
Nov.	0.91	0.69	0.92	0.65	0.89	0.75	0.90	0.72	0.91	0.57	0.93	0.47
Dec.	0.90	0.55	0.93	0.48	0.90	0.56	0.92	0.49	0.84	0.59	0.89	0.49
MEAN	0.88	0.52	0.92	0.44	0.89	0.52	0.91	0.47	0.91	0.43	0.92	0.38

TABLE 3.5

Washington, Median foF2, 12-month Smoothed Means Ø, Rz, IF2

	Ø Linear		Ø 2nd Degree		Rz Linear		Rz 2nd Degree		IF2 Linear		IF2 2nd Degree	
	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.
Jan.	0.98	0.38	0.99	0.31	0.97	0.43	0.99	0.35	0.91	0.57	0.98	0.42
Feb.	0.98	0.46	0.98	0.41	0.97	0.52	0.97	0.50	0.96	0.57	0.97	0.51
Mar.	0.88	1.02	0.97	0.57	0.97	0.60	0.98	0.54	0.98	0.50	0.98	0.49
Apr.	0.94	0.68	0.97	0.49	0.95	0.63	0.97	0.53	0.97	0.49	0.97	0.48
May	0.93	0.48	0.96	0.35	0.95	0.51	0.95	0.42	0.96	0.42	0.95	0.40
June	0.81	0.69	0.88	0.55	0.84	0.62	0.89	0.52	0.85	0.56	0.87	0.52
July	0.92	0.40	0.98	0.23	0.94	0.35	0.98	0.21	0.96	0.26	0.98	0.20
Aug.	0.95	0.37	0.97	0.30	0.97	0.37	0.97	0.31	0.97	0.30	0.97	0.28
Sept.	0.96	0.54	0.97	0.45	0.96	0.53	0.97	0.48	0.97	0.40	0.98	0.38
Oct.	0.97	0.51	0.98	0.46	0.98	0.49	0.98	0.43	0.97	0.48	0.98	0.40
Nov.	0.97	0.53	0.98	0.46	0.97	0.54	0.98	0.49	0.96	0.52	0.98	0.41
Dec.	0.96	0.50	0.98	0.38	0.95	0.50	0.98	0.40	0.94	0.50	0.97	0.41
MEAN	0.94	0.55	0.97	0.41	0.95	0.51	0.97	0.43	0.95	0.46	0.96	0.41

TABLE 3.6

Washington, Median foF2, Monthly Values Ø, Rz, IF2

	Ø Linear		Ø 2nd Degree		Rz Linear		Rz 2nd Degree		IF2 Linear		IF2 2nd Degree	
	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.
Jan.	0.96	0.59	0.97	0.46	0.96	0.54	0.97	0.43	0.96	0.39	0.99	0.25
Feb.	0.96	0.54	0.97	0.50	0.94	0.70	0.94	0.66	0.98	0.31	0.99	0.24
Mar.	0.95	0.65	0.99	0.33	0.97	0.48	0.99	0.36	0.99	0.29	0.99	0.25
Apr.	0.95	0.58	0.98	0.43	0.89	0.85	0.89	0.85	0.94	0.66	0.97	0.43
May	0.92	0.51	0.93	0.48	0.93	0.47	0.94	0.45	0.96	0.32	0.97	0.30
June	0.82	0.66	0.88	0.54	0.87	0.57	0.89	0.51	0.91	0.44	0.93	0.40
July	0.93	0.37	0.97	0.24	0.93	0.35	0.96	0.26	0.97	0.22	0.98	0.18
Aug.	0.94	0.38	0.96	0.30	0.93	0.38	0.95	0.35	0.97	0.24	0.98	0.22
Sept.	0.95	0.55	0.98	0.32	0.96	0.49	0.97	0.38	0.99	0.26	0.99	0.23
Oct.	0.96	0.56	0.99	0.29	0.96	0.60	0.98	0.37	0.98	0.34	0.99	0.25
Nov.	0.95	0.64	0.97	0.48	0.95	0.68	0.96	0.58	0.97	0.36	0.99	0.27
Dec.	0.95	0.60	0.97	0.38	0.95	0.59	0.97	0.41	0.94	0.41	0.96	0.35
MEAN	0.94	0.55	0.96	0.40	0.94	0.56	0.96	0.47	0.96	0.35	0.98	0.28

TABLE 3.7

Maui, Median foF2, 12-month Smoothed Means ∅, Rz, IF2

	∅ Linear		2nd Degree		Rz Linear		Rz 2nd Degree		IF2 Linear		IF2 2nd Degree	
	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.
Jan.	0.95	0.70	0.97	0.57	0.92	0.83	0.95	0.70	0.90	0.88	0.93	0.74
Feb.	0.95	0.76	0.97	0.64	0.92	0.85	0.94	0.77	0.90	0.90	0.93	0.81
Mar.	0.88	1.13	0.95	0.75	0.96	0.72	0.97	0.61	0.95	0.72	0.96	0.63
Apr.	0.93	0.83	0.97	0.59	0.95	0.73	0.98	0.58	0.96	0.62	0.98	0.56
May	0.91	0.69	0.96	0.50	0.96	0.62	0.96	0.50	0.95	0.53	0.96	0.49
June	0.88	0.60	0.95	0.41	0.91	0.52	0.96	0.37	0.93	0.42	0.95	0.36
July	0.89	0.62	0.95	0.39	0.92	0.57	0.95	0.37	0.93	0.45	0.95	0.36
Aug.	0.93	0.60	0.95	0.52	0.94	0.58	0.95	0.51	0.94	0.54	0.95	0.52
Sept.	0.93	0.79	0.96	0.65	0.93	0.82	0.95	0.71	0.95	0.66	0.96	0.61
Oct.	0.95	0.80	0.98	0.59	0.95	0.76	0.98	0.60	0.95	0.70	0.98	0.56
Nov.	0.94	0.78	0.98	0.60	0.94	0.78	0.98	0.60	0.94	0.73	0.97	0.58
Dec.	0.93	0.77	0.97	0.58	0.93	0.79	0.96	0.62	0.92	0.79	0.95	0.65
MEAN	0.92	0.76	0.96	0.57	0.94	0.71	0.96	0.58	0.94	0.66	0.96	0.57

TABLE 3.8

Maui Median foF2, Monthly Values ∅, Rz, IF2

	∅ Linear		∅ 2nd Degree		Rz Linear		Rz 2nd Degree		IF2 Linear		IF2 2nd Degree	
	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.
Jan.	0.92	0.91	0.95	0.72	0.90	0.95	0.94	0.79	0.93	0.80	0.96	0.66
Feb.	0.92	0.91	0.93	0.84	0.89	1.03	0.90	0.99	0.90	0.73	0.96	0.60
Mar.	0.94	0.82	0.98	0.56	0.95	0.72	0.97	0.58	0.97	0.59	0.98	0.45
Apr.	0.94	0.83	0.98	0.57	0.91	0.99	0.92	0.96	0.97	0.79	0.99	0.48
May	0.92	0.67	0.97	0.58	0.93	0.63	0.95	0.57	0.97	0.40	0.98	0.38
June	0.88	0.62	0.94	0.48	0.92	0.51	0.95	0.42	0.95	0.33	0.96	0.30
July	0.92	0.55	0.96	0.39	0.92	0.53	0.95	0.42	0.95	0.40	0.96	0.32
Aug.	0.89	0.63	0.96	0.52	0.93	0.62	0.95	0.56	0.96	0.45	0.97	0.44
Sept.	0.91	0.91	0.96	0.61	0.92	0.84	0.95	0.69	0.96	0.56	0.97	0.48
Oct.	0.93	.82	0.98	0.51	0.94	0.81	0.98	0.52	0.96	0.66	0.97	0.54
Nov.	0.93	0.88	0.98	0.58	0.92	0.96	0.96	0.72	0.95	0.60	0.97	0.48
Dec.	0.91	0.93	0.96	0.62	0.91	0.90	0.96	0.63	0.92	0.76	0.95	0.63
MEAN	0.92	0.79	0.96	0.58	0.92	0.79	0.95	0.65	0.95	0.59	0.97	0.48

TABLE 3.9

Huancayo Median foF2, 12-Month Smoothed Means ∅, Rz, IF2

	∅ Linear		2nd Degree		Rz Linear		Rz 2nd Degree		IF2 Linear		IF2 2nd Degree	
	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.
Jan.	0.92	0.70	0.97	0.49	0.93	0.65	0.97	0.50	0.94	0.54	0.96	0.49
Feb.	0.91	0.67	0.94	0.53	0.82	0.86	0.83	0.80	0.78	0.85	0.80	0.82
Mar.	0.80	0.94	0.91	0.60	0.86	0.71	0.93	0.56	0.87	0.64	0.91	0.58
Apr.	0.84	0.74	0.93	0.55	0.87	0.66	0.94	0.50	0.88	0.58	0.91	0.53
May	0.94	0.57	0.98	0.39	0.96	0.47	0.98	0.36	0.96	0.45	0.97	0.41
June	0.91	0.56	0.96	0.39	0.93	0.51	0.97	0.37	0.95	0.41	0.96	0.37
July	0.89	0.59	0.93	0.48	0.93	0.49	0.97	0.36	0.93	0.44	0.94	0.41
Aug.	0.91	0.55	0.96	0.40	0.92	0.54	0.97	0.39	0.93	0.45	0.95	0.41
Sept.	0.91	0.54	0.96	0.41	0.92	0.53	0.95	0.42	0.94	0.41	0.94	0.40
Oct.	0.81	0.73	0.94	0.47	0.83	0.69	0.94	0.49	0.85	0.57	0.91	0.49
Nov.	0.81	0.76	0.93	0.49	0.83	0.72	0.92	0.51	0.87	0.58	0.94	0.46
Dec.	0.89	0.80	0.97	0.47	0.90	0.75	0.97	0.48	0.93	0.56	0.96	0.44
MEAN	0.88	0.68	0.95	0.47	0.89	0.63	0.95	0.48	0.90	0.54	0.93	0.42

TABLE 3.10

Huancayo Median foF2, Monthly Values ∅, Rz, IF2

	∅ Linear		∅ 2nd Degree		Rz Linear		Rz 2nd Degree		IF2 Linear		IF2 2nd Degree	
	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.
Jan.	0.88	0.86	0.97	0.49	0.88	0.86	0.96	0.52	0.96	0.52	0.98	0.41
Feb.	0.74	1.02	0.81	0.90	0.75	0.99	0.78	0.94	0.78	0.88	0.82	0.82
Mar.	0.83	0.78	0.93	0.52	0.86	0.70	0.93	0.54	0.92	0.53	0.93	0.51
Apr.	0.90	0.62	0.94	0.48	0.88	0.66	0.91	0.61	0.88	0.70	0.94	0.49
May	0.93	0.64	0.97	0.48	0.95	0.53	0.97	0.44	0.97	0.43	0.98	0.40
June	0.92	0.56	0.96	0.44	0.94	0.49	0.97	0.40	0.96	0.37	0.97	0.34
July	0.93	0.50	0.96	0.43	0.92	0.52	0.94	0.47	0.94	0.40	0.95	0.40
Aug.	0.92	0.51	0.97	0.37	0.94	0.47	0.97	0.37	0.95	0.37	0.97	0.32
Sept.	0.88	0.63	0.96	0.39	0.91	0.52	0.96	0.36	0.94	0.36	0.95	0.36
Oct.	0.76	0.85	0.93	0.46	0.78	0.82	0.94	0.44	0.80	0.54	0.89	0.47
Nov.	0.79	0.81	0.93	0.46	0.80	0.81	0.93	0.49	0.80	0.54	0.93	0.39
Dec.	0.85	0.95	0.96	0.49	0.86	0.92	0.97	0.47	0.92	0.51	0.96	0.43
MEAN	0.86	0.73	0.94	0.49	0.87	0.69	0.94	0.50	0.90	0.51	0.94	0.45

TABLE 3.11

Christchurch Median foF2, 12-month Smoothed Means ∅, Rz, IF2

	∅ Linear		∅ 2nd Degree		Rz Linear		Rz 2nd Degree		IF2 Linear		IF2 2nd Degree	
	Mean Corr. Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.
Jan.	0.92	0.46	0.98	0.27	0.93	0.46	0.97	0.32	0.95	0.35	0.97	0.31
Feb.	0.91	0.55	0.97	0.36	0.93	0.52	0.96	0.39	0.94	0.42	0.95	0.39
Mar.	0.82	0.90	0.85	0.72	0.89	0.73	0.89	0.70	0.95	0.53	0.95	0.51
Apr.	0.95	0.71	0.97	0.54	0.96	0.61	0.97	0.52	0.97	0.48	0.98	0.47
May	0.96	0.59	0.96	0.53	0.96	0.57	0.96	0.55	0.96	0.54	0.97	0.50
June	0.94	0.48	0.95	0.44	0.87	0.77	0.88	0.76	0.87	0.79	0.88	0.76
July	0.95	0.45	0.96	0.40	0.94	0.50	0.94	0.49	0.94	0.49	0.94	0.49
Aug.	0.96	0.48	0.97	0.44	0.95	0.53	0.96	0.51	0.96	0.49	0.96	0.48
Sept.	0.94	0.72	0.96	0.60	0.93	0.76	0.95	0.67	0.92	0.57	0.96	0.56
Oct.	0.95	0.55	0.97	0.43	0.95	0.54	0.97	0.45	0.97	0.44	0.97	0.42
Nov.	0.93	0.47	0.97	0.35	0.91	0.43	0.97	0.32	0.97	0.33	0.98	0.31
Dec.	0.83	0.63	0.94	0.38	0.84	0.60	0.93	0.40	0.87	0.50	0.92	0.40
MEAN	0.92	0.58	0.95	0.46	0.92	0.59	0.95	0.51	0.94	0.49	0.95	0.47

TABLE 3.12

Christchurch Median foF2, Monthly Values Ø, Rz, IF2

	Ø Linear		Ø 2nd Degree		Rz Linear		Rz 2nd Degree		IF2 Linear		IF2 2nd Degree	
	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.	Mean Corr Coeff	Mean RMS dev.
Jan.	0.87	0.59	0.97	0.31	0.86	0.61	0.97	0.33	0.96	0.35	0.98	0.27
Feb.	0.90	0.61	0.95	0.45	0.90	0.60	0.94	0.50	0.94	0.43	0.96	0.36
Mar.	0.86	0.80	0.92	0.60	0.90	0.70	0.92	0.60	0.97	0.40	0.97	0.38
Apr.	0.95	0.71	0.97	0.55	0.92	0.86	0.92	0.85	0.91	0.64	0.97	0.47
May	0.94	0.66	0.95	0.65	0.94	0.65	0.95	0.64	0.96	0.52	0.97	0.42
June	0.89	0.74	0.90	0.71	0.87	0.74	0.88	0.72	0.85	0.82	0.86	0.78
July	0.97	0.36	0.98	0.35	0.96	0.45	0.96	0.43	0.95	0.41	0.96	0.37
Aug.	0.97	0.43	0.98	0.39	0.97	0.44	0.97	0.43	0.97	0.40	0.97	0.37
Sept.	0.92	0.78	0.98	0.46	0.93	0.75	0.96	0.60	0.98	0.42	0.98	0.39
Oct.	0.93	0.64	0.98	0.37	0.92	0.66	0.97	0.45	0.97	0.38	0.98	0.33
Nov.	0.91	0.53	0.96	0.35	0.91	0.52	0.96	0.37	0.97	0.29	0.98	0.25
Dec.	0.78	0.70	0.94	0.38	0.79	0.69	0.93	0.40	0.89	0.44	0.92	0.37
MEAN	0.91	0.63	0.96	0.46	0.91	0.64	0.94	0.53	0.94	0.46	0.96	0.40

TABLE 3.13

March - Tromso Median foF2, 12-Month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr. Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr. Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr. Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr. Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr. Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr. Coeff	IF2 2nd Degree RMS dev.
00	0.99	0.11	1.00	0.08	1.00	0.09	1.00	0.04	0.97	0.23	0.98	0.17
01	0.87	0.76	0.92	0.62	0.88	0.73	0.93	0.58	0.90	0.69	0.90	0.67
02	0.90	0.65	0.94	0.49	0.91	0.62	0.95	0.46	0.92	0.59	0.92	0.57
03	0.92	0.48	0.96	0.32	0.93	0.44	0.97	0.29	0.94	0.41	0.95	0.37
04	0.95	0.41	0.97	0.31	0.96	0.39	0.98	0.29	0.96	0.38	0.96	0.38
05	0.98	0.26	0.98	0.24	0.98	0.27	0.98	0.26	0.97	0.30	0.99	0.22
06	0.96	0.37	0.99	0.22	0.96	0.36	0.99	0.23	0.98	0.25	0.98	0.25
07	0.95	0.48	0.97	0.35	0.95	0.47	0.97	0.38	0.97	0.36	0.97	0.36
08	0.98	0.38	0.99	0.30	0.97	0.37	0.98	0.34	0.99	0.26	0.99	0.26
09	0.97	0.45	0.99	0.30	0.97	0.44	0.98	0.37	0.99	0.28	0.99	0.28
10	0.98	0.44	0.99	0.35	0.98	0.47	0.98	0.44	0.99	0.32	0.99	0.31
11	0.98	0.51	0.99	0.31	0.98	0.50	0.98	0.41	0.99	0.28	0.99	0.28
12	0.97	0.57	0.99	0.36	0.97	0.54	0.98	0.44	0.99	0.36	0.99	0.35
13	0.96	0.68	0.98	0.44	0.96	0.66	0.97	0.53	0.98	0.44	0.98	0.42
14	0.94	0.72	0.97	0.50	0.95	0.71	0.96	0.58	0.97	0.54	0.97	0.52
15	0.95	0.64	0.97	0.46	0.95	0.62	0.96	0.52	0.97	0.48	0.97	0.47
16	0.83	1.02	0.91	0.79	0.84	1.01	0.89	0.84	0.87	0.91	0.89	0.84
17	0.88	0.74	0.92	0.61	0.89	0.73	0.92	0.64	0.91	0.63	0.92	0.61
18	0.90	0.58	0.95	0.41	0.91	0.56	0.94	0.44	0.93	0.46	0.95	0.41
19	0.94	0.34	0.98	0.18	0.95	0.30	0.99	0.16	0.98	0.20	0.99	0.14
20	0.89	0.61	0.96	0.39	0.91	0.56	0.96	0.39	0.93	0.50	0.95	0.43
21	0.85	0.69	0.97	0.31	0.86	0.65	0.97	0.33	0.90	0.55	0.94	0.43
22	0.87	0.63	0.88	0.61	0.88	0.60	0.89	0.59	0.88	0.62	0.88	0.61
23	0.65	0.66	0.86	0.45	0.67	0.65	0.90	0.39	0.69	0.64	0.81	0.51

TABLE 3.14

March -Tromso Median foF2, Monthly Values Rz, IF2

Hour LST	∅ Linear Corr. Coeff	∅ Linear RMS dev.	∅ 2nd Degree Corr. Coeff	∅ 2nd Degree RMS dev.	Rz Linear Corr. Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr. Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr. Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr. Coeff	IF2 2nd Degree RMS dev.
00	0.99	0.13	0.99	0.11	0.97	0.23	0.98	0.19	0.95	0.28	0.99	0.11
01	0.89	0.72	0.97	0.40	0.93	0.57	0.96	0.43	0.94	0.55	0.95	0.50
02	0.90	0.64	1.00	0.10	0.94	0.49	0.99	0.18	0.97	0.38	0.99	0.24
03	0.88	0.56	0.95	0.37	0.92	0.48	0.96	0.35	0.95	0.37	0.95	0.37
04	0.93	0.49	0.96	0.38	0.95	0.43	0.96	0.37	0.96	0.37	0.96	0.37
05	0.95	0.42	0.96	0.36	0.97	0.34	0.97	0.33	0.96	0.39	0.98	0.28
06	0.94	0.48	0.98	0.29	0.97	0.35	0.98	0.28	0.98	0.30	0.98	0.30
07	0.93	0.55	0.97	0.35	0.96	0.42	0.97	0.36	0.96	0.41	0.96	0.41
08	0.96	0.47	0.98	0.31	0.98	0.34	0.98	0.31	0.98	0.34	0.98	0.32
09	0.95	0.57	0.99	0.32	0.97	0.42	0.98	0.35	0.98	0.38	0.98	0.37
10	0.95	0.64	0.98	0.43	0.97	0.51	0.98	0.46	0.97	0.48	0.98	0.45
11	0.95	0.74	0.98	0.42	0.97	0.58	0.98	0.47	0.98	0.46	0.98	0.45
12	0.95	0.68	0.99	0.30	0.98	0.49	0.99	0.35	0.99	0.39	0.99	0.38
13	0.94	0.81	0.99	0.40	0.96	0.62	0.98	0.47	0.98	0.49	0.98	0.49
14	0.93	0.81	0.98	0.39	0.96	0.62	0.98	0.47	0.97	0.55	0.97	0.55
15	0.94	0.68	0.99	0.34	0.96	0.53	0.98	0.40	0.97	0.44	0.97	0.44
16	0.84	1.00	0.94	0.66	0.88	0.87	0.92	0.73	0.89	0.83	0.90	0.79
17	0.89	0.71	0.96	0.46	0.92	0.61	0.94	0.52	0.94	0.53	0.94	0.51
18	0.88	0.63	0.98	0.28	0.92	0.52	0.97	0.34	0.96	0.37	0.97	0.32
19	0.92	0.39	0.99	0.15	0.96	0.29	0.99	0.12	0.99	0.13	1.00	0.08
20	0.87	0.66	0.97	0.30	0.91	0.55	0.97	0.32	0.95	0.42	0.96	0.38
21	0.84	0.70	0.99	0.16	0.89	0.58	0.98	0.23	0.94	0.43	0.96	0.35
22	0.92	0.50	0.94	0.43	0.95	0.40	0.95	0.40	0.93	0.48	0.93	0.46
23	0.70	0.62	0.95	0.26	0.79	0.54	0.93	0.32	0.82	0.50	0.92	0.34

TABLE 3.15

June - Tromso Median foF2, 12-month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr. Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr. Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr. Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr. Coeff.	Rz 2nd Degree RMS dev.	IF2 Linear Corr. Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr. Coeff	IF2 2nd Degree RMS dev.
00	0.77	0.47	0.89	0.33	0.79	0.46	0.90	0.33	0.80	0.41	0.88	0.32
01	0.89	0.26	0.91	0.24	0.90	0.26	0.91	0.24	0.90	0.24	0.90	0.24
02	0.87	0.35	0.87	0.35	0.87	0.35	0.87	0.35	0.84	0.36	0.84	0.36
03	0.92	0.31	0.92	0.30	0.92	0.30	0.92	0.30	0.91	0.32	0.91	0.32
04	0.96	0.25	0.97	0.24	0.96	0.24	0.97	0.23	0.96	0.24	0.96	0.24
05	0.94	0.28	0.96	0.22	0.95	0.25	0.97	0.19	0.96	0.20	0.97	0.17
06	0.90	0.38	0.95	0.27	0.90	0.37	0.95	0.27	0.92	0.32	0.94	0.28
07	0.84	0.55	0.94	0.36	0.84	0.54	0.93	0.37	0.86	0.48	0.92	0.38
08	0.69	0.84	0.84	0.64	0.70	0.84	0.82	0.67	0.72	0.79	0.80	0.68
09	0.73	0.76	0.86	0.57	0.73	0.75	0.84	0.60	0.75	0.71	0.83	0.60
10	0.89	0.42	0.96	0.26	0.89	0.41	0.96	0.26	0.92	0.33	0.95	0.26
11	0.73	0.82	0.88	0.58	0.74	0.81	0.86	0.61	0.76	0.75	0.84	0.62
12	0.71	0.80	0.86	0.58	0.72	0.79	0.84	0.61	0.74	0.74	0.82	0.62
13	0.66	0.91	0.82	0.70	0.66	0.90	0.80	0.72	0.68	0.86	0.77	0.74
14	0.74	0.67	0.87	0.49	0.75	0.67	0.86	0.52	0.77	0.62	0.84	0.52
15	0.77	0.59	0.89	0.43	0.78	0.58	0.87	0.45	0.80	0.53	0.87	0.44
16	0.82	0.52	0.90	0.40	0.82	0.51	0.89	0.41	0.84	0.46	0.88	0.40
17	0.89	0.36	0.95	0.25	0.90	0.35	0.95	0.26	0.93	0.29	0.95	0.24
18	0.89	0.38	0.95	0.26	0.90	0.37	0.95	0.26	0.92	0.31	0.95	0.24
19	0.96	0.23	0.98	0.15	0.96	0.21	0.98	0.15	0.97	0.17	0.98	0.14
20	0.93	0.27	0.95	0.24	0.94	0.25	0.95	0.23	0.94	0.24	0.95	0.23
21	0.91	0.33	0.91	0.33	0.92	0.32	0.92	0.32	0.88	0.37	0.88	0.36
22	0.87	0.34	0.88	0.34	0.88	0.33	0.89	0.32	0.87	0.33	0.87	0.33
23	0.87	0.36	0.89	0.33	0.89	0.34	0.90	0.31	0.86	0.35	0.87	0.33

TABLE 3.16

June - Tromso Median foF2, Monthly Values Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree EMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.84	0.35	0.91	0.27	0.87	0.32	0.91	0.27	0.82	0.39	0.90	0.30
01	0.90	0.27	0.94	0.20	0.92	0.24	0.94	0.21	0.93	0.20	0.93	0.20
02	0.91	0.31	0.91	0.30	0.92	0.29	0.92	0.29	0.89	0.31	0.89	0.31
03	0.96	0.24	0.96	0.23	0.97	0.21	0.97	0.21	0.94	0.26	0.94	0.26
04	0.97	0.22	0.98	0.18	0.98	0.17	0.99	0.16	0.98	0 17	0.98	0.17
05	0.95	0.25	0.98	0.17	0.98	0.18	0.99	0.12	0.98	0.15	0.99	0.13
06	0.94	0.28	0.97	0.19	0.96	0.24	0.97	0.20	0.94	0.27	0.96	0.24
07	0.92	0.34	0.98	0.19	0.95	0.27	0.97	0.20	0.89	0.44	0.92	0.38
08	0.92	0.31	0.95	0.26	0.96	0.23	0.97	0.19	0.73	0.77	0.78	0.70
09	0.92	0.31	0.94	0.27	0.96	0.22	0.97	0.18	0.76	0.70	0.81	0.63
10	0.92	0.34	0.94	0.29	0.95	0.27	0.96	0.23	0.94	0.29	0.95	0.26
11	0.91	0.38	0.93	0.32	0.94	0.29	0.96	0.24	0.77	0.73	0.82	0.65
12	0.91	0.32	0.94	0.27	0.95	0.25	0.96	0.21	0.75	0.72	0.80	0.66
13	0.91	0.32	0.93	0.27	0.94	0.25	0.96	0.21	0.69	0.84	0.75	0.77
14	0.93	0.27	0.95	0.23	0.96	0.20	0.98	0.16	0.78	0.60	0.83	0.54
15	0.90	0.32	0.93	0.27	0.94	0.25	0.95	0.22	0.82	0.51	0.86	0.46
16	0.93	0.26	0.95	0.24	0.97	0.18	0.97	0.17	0.85	0.45	0.87	0.41
17	0.94	0.26	0.95	0.24	0.97	0.18	0.98	0.16	0.93	0.27	0.94	0.25
18	0.94	0.26	0.97	0.20	0.97	0.19	0.98	0.15	0.94	0.28	0.96	0.22
19	0.93	0.29	0.95	0.25	0.97	0.21	0.97	0.19	0.98	0.13	0.99	0.12
20	0.92	0.30	0.93	0.29	0.95	0.24	0.96	0.23	0.96	0.21	0.96	0.20
21	0.93	0.31	0.93	0.30	0.95	0.26	0.95	0.26	0.90	0.34	0.90	0.34
22	0.87	0.36	0.88	0.35	0.91	0.30	0.91	0.30	0.89	0.30	0.89	0.30
23	0.87	0.37	0.91	0.32	0.90	0.33	0.92	0.30	0.88	0.33	0.89	0.30

TABLE 3.17

September - Tromso, Median foF2, 12-month Smoothed Means Ø. Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	2nd Degree Corr Coeff	2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev
00	0.79	0.50	0.87	0.40	0.79	0.49	0.88	0.38	0.84	0.44	0.86	0.41
01	0.76	0.55	0.78	0.53	0.77	0.54	0.79	0.52	0.78	0.53	0.78	0.53
02	0.94	0.39	0.95	0.35	0.93	0.41	0.94	0.37	0.95	0.36	0.95	0.36
03	0.89	0.53	0.91	0.47	0.88	0.55	0.91	0.48	0.92	0.47	0.92	0.46
04	0.97	0.29	0.98	0.24	0.98	0.27	0.98	0.23	0.98	0.24	0.98	0.24
05	0.96	0.36	0.96	0.34	0.97	0.33	0.97	0.32	0.97	0.31	0.97	0.30
06	0.96	0.37	0.96	0.35	0.96	0.36	0.97	0.34	0.97	0.30	0.97	0.29
07	0.94	0.44	0.95	0.40	0.94	0.44	0.96	0.39	0.96	0.33	0.96	0.33
08	0.93	0.50	0.95	0.44	0.94	0.50	0.95	0.44	0.96	0.38	0.96	0.38
09	0.95	0.50	0.95	0.47	0.95	0.48	0.96	0.45	0.96	0.41	0.96	0.40
10	0.95	0.52	0.95	0.48	0.95	0.49	0.96	0.46	0.96	0.43	0.96	0.43
11	0.94	0.54	0.96	0.47	0.95	0.53	0.96	0.47	0.96	0.43	0.96	0.42
12	0.95	0.53	0.95	0.50	0.95	0.52	0.96	0.49	0.96	0.44	0.96	0.44
13	0.95	0.51	0.96	0.49	0.95	0.50	0.96	0.48	0.96	0.45	0.96	0.45
14	0.95	0.51	0.95	0.48	0.95	0.52	0.95	0.49	0.96	0.43	0.96	0.42
15	0.88	0.74	0.91	0.67	0.88	0.76	0.90	0.69	0.91	0.64	0.91	0.64
16	0.92	0.58	0.94	0.52	0.92	0.59	0.93	0.54	0.94	0.48	0.94	0.48
17	0.95	0.40	0.96	0.34	0.95	0.39	0.96	0.34	0.97	0.30	0.97	0.30
18	0.93	0.46	0.93	0.44	0.93	0.47	0.94	0.45	0.94	0.40	0.94	0.40
19	0.92	0.45	0.96	0.33	0.93	0.43	0.96	0.31	0.95	0.33	0.95	0.32
20	0.86	0.63	0.89	0.57	0.86	0.59	0.88	0.55	0.89	0.57	0.89	0.57
21	0.90	0.38	0.93	0.33	0.91	0.36	0.93	0.31	0.93	0.33	0.94	0.31
22	0.94	0.32	0.94	0.31	0.94	0.31	0.95	0.30	0.92	0.36	0.94	0.31
23	0.91	0.44	0.93	0.39	0.92	0.41	0.94	0.37	0.93	0.40	0.93	0.40

TABLE 3.18

September - Tromso Median foF2, Monthly Values Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.80	0.48	0.93	0.30	0.84	0.44	0.96	0.22	0.89	0.37	0.90	0.36
01	0.78	0.53	0.85	0.44	0.81	0.49	0.90	0.37	0.81	0.49	0.81	0.49
02	0.90	0.49	0.94	0.40	0.89	0.51	0.93	0.42	0.92	0.44	0.92	0.44
03	0.90	0.51	0.94	0.39	0.92	0.47	0.96	0.33	0.94	0.40	0.94	0.35
04	0.97	0.27	0.99	0.17	0.98	0.23	0.99	0.15	0.97	0.26	0.98	0.26
05	0.97	0.32	0.98	0.27	0.98	0.26	0.98	0.22	0.98	0.27	0.98	0.23
06	0.96	0.36	0.98	0.28	0.97	0.33	0.97	0.28	0.98	0.23	0.99	0.19
07	0.94	0.45	0.96	0.35	0.94	0.44	0.96	0.37	0.98	0.27	0.98	0.23
08	0.94	0.49	0.96	0.38	0.95	0.46	0.96	0.39	0.97	0.30	0.98	0.28
09	0.96	0.45	0.97	0.38	0.97	0.40	0.97	0.38	0.97	0.36	0.97	0.33
10	0.96	0.46	0.97	0.39	0.97	0.41	0.97	0.38	0.97	0.38	0.97	0.36
11	0.95	0.51	0.97	0.40	0.96	0.48	0.96	0.43	0.97	0.35	0.98	0.35
12	0.95	0.51	0.96	0.45	0.95	0.49	0.96	0.47	0.97	0.40	0.97	0.37
13	0.96	0.46	0.97	0.41	0.96	0.46	0.96	0.44	0.97	0.40	0.97	0.38
14	0.95	0.50	0.97	0.42	0.95	0.51	0.96	0.47	0.98	0.34	0.98	0.29
15	0.89	0.73	0.93	0.59	0.89	0.72	0.92	0.64	0.95	0.48	0.95	0.45
16	0.92	0.58	0.95	0.46	0.92	0.57	0.94	0.51	0.97	0.33	0.98	0.30
17	0.95	0.38	0.97	0.28	0.96	0.37	0.97	0.32	0.98	0.21	0.99	0.21
18	0.92	0.48	0.94	0.43	0.92	0.48	0.93	0.45	0.94	0.40	0.95	0.36
19	0.91	0.47	0.96	0.34	0.92	0.44	0.95	0.37	0.96	0.29	0.96	0.29
20	0.86	0.64	0.90	0.54	0.87	0.61	0.89	0.56	0.91	0.50	0.91	0.50
21	0.92	0.35	0.94	0.29	0.94	0.30	0.96	0.25	0.95	0.28	0.95	0.27
22	0.95	0.28	0.95	0.28	0.97	0.23	0.97	0.23	0.91	0.37	0.93	0.34
23	0.90	0.47	0.93	0.40	0.92	0.41	0.94	0.35	0.91	0.45	0.91	0.44

TABLE 3.19

December - Tromso Median foF2, 12-month Smoothed Means, Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.89	0.55	0.89	0.54	0.89	0.53	0.90	0.52	0.87	0.58	0.89	0.54
01	0.93	0.45	0.93	0.44	0.93	0.45	0.93	0.43	0.90	0.52	0.93	0.46
02	0.92	0.49	0.92	0.48	0.91	0.48	0.91	0.48	0.90	0.52	0.91	0.50
03	0.98	0.28	0.98	0.28	0.98	0.27	0.98	0.27	0.97	0.34	0.97	0.30
04	0.95	0.47	0.95	0.46	0.95	0.47	0.95	0.47	0.93	0.51	0.94	0.49
05	0.93	0.53	0.93	0.52	0.93	0.53	0.93	0.53	0.91	0.58	0.91	0.58
06	0.96	0.40	0.96	0.39	0.96	0.40	0.96	0.40	0.95	0.43	0.96	0.42
07	0.98	0.29	0.98	0.27	0.97	0.30	0.98	0.26	0.95	0.42	0.97	0.33
08	0.97	0.34	0.97	0.33	0.97	0.34	0.98	0.31	0.95	0.45	0.96	0.38
09	0.99	0.19	0.99	0.19	0.99	0.18	0.99	0.17	0.98	0.33	0.99	0.21
10	0.99	0.39	0.99	0.38	0.99	0.39	0.99	0.36	0.97	0.59	0.99	0.40
11	0.99	0.49	0.99	0.46	0.99	0.51	0.99	0.43	0.96	0.80	0.99	0.50
12	0.98	0.58	0.99	0.50	0.98	0.60	0.99	0.44	0.95	0.99	0.98	0.63
13	0.98	0.67	0.98	0.60	0.98	0.70	0.99	0.55	0.95	1.05	0.98	0.66
14	0.97	0.69	0.97	0.67	0.97	0.70	0.97	0.64	0.94	0.97	0.96	0.74
15	0.91	0.89	0.92	0.84	0.91	0.91	0.91	0.89	0.90	0.93	0.91	0.90
16	0.93	0.45	0.93	0.45	0.94	0.44	0.94	0.43	0.90	0.59	0.90	0.52
17	0.90	0.52	0.90	0.52	0.91	0.51	0.92	0.50	0.88	0.59	0.90	0.54
18	0.98	0.28	0.98	0.24	0.98	0.28	0.98	0.23	0.95	0.42	0.98	0.27
19	0.94	0.31	0.95	0.31	0.94	0.33	0.94	0.33	0.94	0.31	0.95	0.30
20	0.85	0.48	0.89	0.42	0.84	0.45	0.88	0.43	0.80	0.54	0.88	0.44
21	x		x		x		x		x		x	
22	x		x		x		x		x		x	
23	x		x		x		x		x		x	

x Insufficient number of values

TABLE 3.20

December - Tromso Median foF2, Monthly Values Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.91	0.48	0.91	0.48	0.92	0.47	0.92	0.47	0.83	0.58	0.89	0.47
01	0.95	0.39	0.95	0.39	0.94	0.40	0.94	0.39	0.91	0.48	0.93	0.42
02	0.94	0.42	0.94	0.40	0.93	0.44	0.94	0.43	0.94	0.41	0.94	0.41
03	0.99	0.24	0.99	0.21	0.98	0.25	0.99	0.23	0.97	0.31	0.98	0.29
04	0.95	0.44	0.96	0.40	0.95	0.44	0.96	0.41	0.96	0.40	0.96	0.40
05	0.95	0.44	0.96	0.43	0.95	0.46	0.95	0.45	0.93	0.53	0.93	0.53
06	0.97	0.33	0.98	0.30	0.97	0.34	0.98	0.31	0.96	0.35	0.96	0.37
07	0.99	0.16	0.99	0.15	0.99	0.18	0.99	0.17	0.95	0.42	0.97	0.32
08	0.99	0.20	0.99	0.20	0.99	0.21	0.99	0.21	0.94	0.46	0.96	0.39
09	0.99	0.19	1.00	0.12	0.99	0.20	1.00	0.17	0.98	0.33	0.99	0.25
10	0.99	0.31	0.99	0.28	0.99	0.33	0.99	0.32	0.97	0.58	0.99	0.40
11	0.99	0.33	0.99	0.32	0.99	0.40	0.99	0.40	0.96	0.75	0.99	0.49
12	1.00	0.27	1.00	0.26	0.99	0.37	0.99	0.35	0.95	0.99	0.98	0.69
13	0.99	0.35	0.99	0.34	0.99	0.50	0.99	0.48	0.95	1.02	0.98	0.63
14	0.99	0.46	0.99	0.45	0.98	0.57	0.98	0.57	0.94	0.95	0.97	0.64
15	0.92	0.85	0.94	0.74	0.90	0.93	0.92	0.83	0.93	0.78	0.94	0.70
16	0.96	0.34	0.96	0.34	0.96	0.35	0.96	0.35	0.89	0.55	0.91	0.49
17	0.95	0.39	0.95	0.39	0.94	0.42	0.94	0.42	0.88	0.57	0.93	0.42
18	0.99	0.19	0.99	0.19	0.99	0.19	0.99	0.19	0.95	0.41	0.98	0.27
19	0.91	0.40	0.92	0.36	0.90	0.40	0.92	0.36	0.94	0.31	0.94	0.31
20	0.83	0.51	0.84	0.49	0.84	0.49	0.86	0.47	0.79	0.55	0.82	0.52
21	x		x		x		x		x		x	
22	x		x		x		x		x		x	
23	x		x		x		x		x		x	

x Insufficient number of values

TABLE 3.21

March - Fairbanks Median foF2, 12-month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.71	0.56	0.78	0.49	0.75	0.58	0.76	0.57	0.75	0.58	0.75	0.58
01	0.71	0.75	0.79	0.65	0.82	0.62	0.82	0.62	0.73	0.68	0.73	0.68
02	0.65	0.80	0.85	0.55	0.83	0.57	0.85	0.55	0.82	0.58	0.83	0.58
03	0.75	0.64	0.89	0.43	0.88	0.47	0.89	0.44	0.85	0.47	0.86	0.46
04	0.73	0.79	0.83	0.64	0.85	0.60	0.85	0.59	0.80	0.62	0.80	0.62
05	0.73	0.72	0.85	0.55	0.86	0.54	0.86	0.54	0.82	0.58	0.82	0.58
06	0.82	0.54	0.89	0.43	0.89	0.44	0.90	0.44	0.87	0.47	0.87	0.47
07	0.87	0.52	0.95	0.31	0.93	0.37	0.96	0.30	0.93	0.34	0.94	0.33
08	0.87	0.52	0.95	0.33	0.93	0.40	0.95	0.36	0.94	0.35	0.95	0.34
09	0.87	0.54	0.95	0.33	0.94	0.40	0.95	0.37	0.94	0.36	0.95	0.36
10	0.85	0.62	0.95	0.39	0.92	0.50	0.94	0.44	0.92	0.45	0.93	0.44
11	0.88	0.62	0.97	0.34	0.92	0.52	0.96	0.36	0.95	0.39	0.96	0.35
12	0.88	0.71	0.95	0.46	0.92	0.59	0.95	0.47	0.94	0.48	0.94	0.47
13	0.86	0.83	0.94	0.55	0.90	0.70	0.94	0.56	0.92	0.59	0.93	0.57
14	0.89	0.82	0.96	0.52	0.95	0.56	0.96	0.49	0.95	0.51	0.95	0.51
15	0.90	0.83	0.97	0.50	0.97	0.45	0.98	0.41	0.97	0.42	0.97	0.41
16	0.90	0.86	0.96	0.53	0.95	0.62	0.96	0.54	0.96	0.52	0.96	0.52
17	0.87	0.99	0.93	0.71	0.90	0.83	0.93	0.73	0.92	0.72	0.92	0.71
18	0.85	0.98	0.94	0.65	0.90	0.82	0.93	0.67	0.92	0.68	0.92	0.67
19	0.78	0.99	0.89	0.74	0.83	0.88	0.89	0.73	0.85	0.78	0.86	0.76
20	0.80	0.72	0.92	0.48	0.89	0.55	0.91	0.50	0.90	0.49	0.90	0.49
21	0.81	0.57	0.92	0.38	0.89	0.44	0.92	0.38	0.89	0.40	0.90	0.40
22	0.81	0.54	0.93	0.33	0.92	0.36	0.93	0.33	0.91	0.36	0.92	0.34
23	0.78	0.60	0.87	0.46	0.87	0.48	0.88	0.46	0.84	0.49	0.85	0.48

TABLE 3.22

March - Fairbanks Median foF2, Monthly Values Ø Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.78	0.55	0.79	0.54	0.67	0.65	0.70	0.63	0.76	0.57	0.79	0.54
01	0.82	0.61	0.84	0.59	0.78	0.68	0.80	0.65	0.77	0.63	0.79	0.62
02	0.82	0.59	0.88	0.50	0.82	0.59	0.85	0.54	0.86	0.52	0.87	0.51
03	0.83	0.54	0.89	0.44	0.83	0.53	0.89	0.44	0.87	0.46	0.87	0.46
04	0.76	0.73	0.82	0.64	0.77	0.71	0.81	0.66	0.80	0.63	0.81	0.62
05	0.80	0.63	0.86	0.54	0.79	0.66	0.84	0.59	0.82	0.56	0.83	0.55
06	0.84	0.54	0.90	0.43	0.83	0.55	0.89	0.46	0.89	0.44	0.89	0.44
07	0.84	0.56	0.94	0.35	0.88	0.49	0.94	0.36	0.93	0.35	0.93	0.35
08	0.89	0.51	0.96	0.32	0.90	0.48	0.94	0.37	0.96	0.31	0.96	0.31
09	0.91	0.46	0.97	0.29	0.92	0.46	0.95	0.34	0.97	0.27	0.97	0.27
10	0.90	0.54	0.96	0.36	0.90	0.56	0.95	0.40	0.95	0.36	0.95	0.36
11	0.88	0.63	0.97	0.32	0.90	0.58	0.96	0.36	0.97	0.31	0.97	0.30
12	0.85	0.78	0.96	0.42	0.90	0.67	0.94	0.49	0.95	0.44	0.95	0.44
13	0.83	0.90	0.96	0.44	0.88	0.75	0.94	0.54	0.94	0.53	0.94	0.52
14	0.90	0.79	0.97	0.44	0.94	0.62	0.96	0.48	0.97	0.40	0.97	0.39
15	0.92	0.77	0.97	0.50	0.96	0.54	0.97	0.44	0.98	0.35	0.99	0.32
16	0.89	0.92	0.96	0.52	0.94	0.69	0.96	0.56	0.97	0.47	0.97	0.46
17	0.84	1.07	0.95	0.60	0.90	0.82	0.94	0.68	0.94	0.64	0.94	0.64
18	0.84	1.00	0.96	0.53	0.90	0.78	0.94	0.61	0.94	0.62	0.94	0.61
19	0.80	0.93	0.93	0.58	0.85	0.82	0.90	0.68	0.89	0.70	0.89	0.69
20	0.86	0.61	0.95	0.36	0.91	0.48	0.94	0.42	0.93	0.42	0.93	0.41
21	0.86	0.49	0.96	0.27	0.91	0.40	0.94	0.32	0.94	0.32	0.94	0.32
22	0.91	0.40	0.97	0.23	0.92	0.36	0.96	0.26	0.97	0.24	0.97	0.24
23	0.84	0.55	0.88	0.47	0.81	0.56	0.85	0.51	0.87	0.49	0.87	0.49

TABLE 3.23

June - Fairbanks Median foF2, 12-month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.83	0.41	0.88	0.35	0.86	0.37	0.88	0.34	0.85	0.34	0.86	0.34
01	0.87	0.37	0.91	0.31	0.90	0.32	0.92	0.29	0.89	0.29	0.90	0.29
02	0.86	0.36	0.95	0.22	0.90	0.30	0.95	0.21	0.91	0.26	0.94	0.21
03	0.80	0.43	0.89	0.33	0.83	0.39	0.89	0.32	0.83	0.36	0.87	0.32
04	0.76	0.44	0.89	0.31	0.81	0.39	0.90	0.29	0.81	0.35	0.88	0.29
05	0.81	0.42	0.90	0.31	0.84	0.38	0.91	0.29	0.86	0.33	0.90	0.28
06	0.78	0.46	0.87	0.36	0.81	0.42	0.88	0.34	0.82	0.37	0.86	0.33
07	0.79	0.44	0.88	0.34	0.83	0.39	0.90	0.32	0.84	0.36	0.87	0.32
08	0.80	0.46	0.88	0.37	0.84	0.41	0.89	0.34	0.85	0.37	0.88	0.34
09	0.77	0.49	0.84	0.42	0.82	0.44	0.85	0.39	0.81	0.41	0.83	0.40
10	0.76	0.51	0.84	0.43	0.81	0.45	0.85	0.41	0.81	0.43	0.84	0.40
11	0.72	0.49	0.83	0.40	0.78	0.44	0.85	0.37	0.78	0.41	0.83	0.37
12	0.81	0.41	0.87	0.34	0.85	0.36	0.89	0.32	0.85	0.34	0.87	0.32
13	0.80	0.41	0.87	0.34	0.84	0.37	0.89	0.32	0.85	0.34	0.87	0.31
14	0.82	0.41	0.89	0.32	0.86	0.35	0.90	0.30	0.87	0.32	0.89	0.29
15	0.80	0.40	0.90	0.29	0.85	0.36	0.92	0.27	0.86	0.31	0.90	0.26
16	0.80	0.39	0.90	0.29	0.85	0.35	0.92	0.27	0.86	0.30	0.90	0.26
17	0.81	0.39	0.92	0.27	0.86	0.34	0.93	0.25	0.88	0.29	0.92	0.25
18	0.79	0.43	0.87	0.34	0.84	0.38	0.89	0.32	0.84	0.35	0.87	0.32
19	0.72	0.49	0.86	0.36	0.78	0.44	0.87	0.35	0.79	0.40	0.85	0.34
20	0.78	0.43	0.87	0.34	0.83	0.38	0.88	0.32	0.84	0.35	0.86	0.32
21	0.83	0.42	0.87	0.37	0.86	0.38	0.87	0.36	0.85	0.37	0.85	0.36
22	0.78	0.46	0.84	0.40	0.81	0.42	0.83	0.40	0.79	0.42	0.80	0.40
23	0.80	0.44	0.86	0.37	0.83	0.39	0.86	0.36	0.82	0.38	0.84	0.36

TABLE 3.24

June - Fairbanks Median foF2, Monthly Values, ∅ Rz, IF2

Hour LST	∅ Linear Corr Coeff	∅ Linear RMS dev.	∅ 2nd Degree Corr Coeff	∅ 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.82	0.42	0.85	0.38	0.87	0.35	0.89	0.34	0.87	0.32	0.87	0.32
01	0.87	0.36	0.90	0.31	0.92	0.28	0.93	0.26	0.91	0.27	0.91	0.27
02	0.84	0.38	0.92	0.27	0.90	0.30	0.94	0.23	0.93	0.22	0.95	0.20
03	0.75	0.46	0.86	0.35	0.83	0.39	0.88	0.34	0.87	0.32	0.88	0.30
04	0.73	0.45	0.86	0.33	0.80	0.40	0.87	0.32	0.85	0.32	0.89	0.28
05	0.78	0.44	0.88	0.34	0.84	0.38	0.90	0.31	0.90	0.28	0.92	0.24
06	0.74	0.48	0.82	0.41	0.81	0.42	0.86	0.37	0.87	0.33	0.88	0.31
07	0.81	0.41	0.88	0.34	0.85	0.37	0.88	0.33	0.90	0.28	0.91	0.27
08	0.81	0.44	0.87	0.38	0.86	0.38	0.89	0.34	0.90	0.30	0.91	0.29
09	0.76	0.49	0.82	0.44	0.82	0.44	0.84	0.41	0.85	0.37	0.86	0.36
10	0.76	0.50	0.81	0.45	0.81	0.45	0.83	0.43	0.86	0.38	0.87	0.36
11	0.74	0.47	0.82	0.40	0.80	0.42	0.84	0.38	0.83	0.36	0.85	0.35
12	0.81	0.41	0.86	0.35	0.86	0.35	0.88	0.33	0.88	0.31	0.89	0.30
13	0.80	0.41	0.85	0.35	0.85	0.36	0.87	0.33	0.87	0.31	0.88	0.30
14	0.80	0.42	0.86	0.35	0.86	0.36	0.89	0.32	0.88	0.30	0.90	0.28
15	0.79	0.41	0.88	0.32	0.84	0.36	0.90	0.29	0.87	0.29	0.91	0.25
16	0.80	0.40	0.88	0.31	0.85	0.35	0.90	0.29	0.87	0.29	0.90	0.26
17	0.82	0.39	0.89	0.31	0.87	0.34	0.91	0.28	0.90	0.26	0.92	0.24
18	0.79	0.43	0.85	0.37	0.85	0.38	0.87	0.34	0.88	0.31	0.89	0.30
19	0.73	0.48	0.82	0.40	0.79	0.43	0.84	0.38	0.84	0.36	0.86	0.33
20	0.81	0.41	0.86	0.35	0.86	0.35	0.88	0.32	0.88	0.30	0.88	0.30
21	0.81	0.43	0.86	0.38	0.87	0.37	0.88	0.35	0.89	0.32	0.89	0.32
22	0.77	0.46	0.81	0.42	0.84	0.39	0.85	0.38	0.84	0.37	0.84	0.37
23	0.79	0.43	0.84	0.39	0.86	0.36	0.87	0.34	0.87	0.33	0.87	0.33

TABLE 3.25

September - Fairbanks Median foF2, 12-month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.82	0.61	0.86	0.54	0.80	0.61	0.83	0.56	0.82	0.58	0.84	0.55
01	0.89	0.42	0.91	0.38	0.88	0.44	0.90	0.41	0.92	0.36	0.93	0.35
02	0.91	0.42	0.93	0.38	0.90	0.44	0.91	0.41	0.93	0.37	0.93	0.36
03	0.86	0.53	0.87	0.50	0.86	0.53	0.87	0.51	0.88	0.48	0.88	0.48
04	0.87	0.50	0.89	0.47	0.88	0.51	0.90	0.47	0.86	0.47	0.88	0.44
05	0.89	0.44	0.93	0.35	0.90	0.44	0.93	0.36	0.92	0.36	0.92	0.36
06	0.96	0.31	0.97	0.27	0.95	0.33	0.95	0.31	0.95	0.30	0.96	0.29
07	0.95	0.34	0.95	0.33	0.94	0.34	0.95	0.34	0.94	0.33	0.94	0.32
08	0.95	0.37	0.97	0.29	0.94	0.38	0.96	0.31	0.96	0.28	0.96	0.28
09	0.94	0.39	0.96	0.33	0.95	0.38	0.96	0.33	0.96	0.29	0.96	0.29
10	0.97	0.31	0.98	0.22	0.98	0.26	0.99	0.18	0.99	0.14	0.99	0.14
11	0.91	0.49	0.93	0.42	0.92	0.47	0.94	0.40	0.94	0.37	0.94	0.37
12	0.88	0.59	0.90	0.54	0.89	0.55	0.91	0.52	0.90	0.49	0.90	0.49
13	0.87	0.60	0.89	0.54	0.89	0.56	0.91	0.51	0.90	0.50	0.90	0.49
14	0.89	0.60	0.91	0.55	0.91	0.56	0.92	0.53	0.92	0.50	0.92	0.50
15	0.92	0.54	0.93	0.52	0.93	0.52	0.93	0.52	0.93	0.49	0.93	0.46
16	0.94	0.52	0.94	0.49	0.94	0.51	0.94	0.50	0.95	0.47	0.95	0.44
17	0.94	0.48	0.96	0.40	0.94	0.46	0.96	0.41	0.96	0.37	0.96	0.36
18	0.95	0.47	0.95	0.46	0.95	0.47	0.95	0.47	0.94	0.49	0.95	0.43
19	0.83	0.75	0.85	0.72	0.83	0.75	0.84	0.73	0.83	0.72	0.83	0.71
20	0.88	0.65	0.90	0.59	0.88	0.64	0.89	0.61	0.88	0.59	0.88	0.59
21	0.90	0.57	0.90	0.56	0.89	0.58	0.89	0.58	0.88	0.57	0.90	0.53
22	0.86	0.54	0.88	0.51	0.85	0.56	0.86	0.54	0.85	0.54	0.85	0.54
23	0.87	0.49	0.90	0.44	0.87	0.49	0.89	0.45	0.88	0.44	0.88	0.43

TABLE 3.26

September - Fairbanks Median foF2, Monthly Values Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.85	0.57	0.91	0.45	0.87	0.53	0.90	0.48	0.87	0.49	0.89	0.47
01	0.89	0.43	0.95	0.30	0.91	0.39	0.95	0.29	0.96	0.27	0.96	0.27
02	0.90	0.45	0.95	0.33	0.92	0.40	0.95	0.32	0.96	0.28	0.96	0.28
03	0.88	0.48	0.94	0.36	0.90	0.45	0.93	0.37	0.93	0.37	0.93	0.37
04	0.88	0.49	0.94	0.36	0.91	0.43	0.94	0.34	0.92	0.36	0.94	0.30
05	0.88	0.47	0.97	0.24	0.91	0.41	0.97	0.23	0.95	0.28	0.95	0.28
06	0.94	0.35	0.98	0.22	0.96	0.31	0.97	0.24	0.97	0.24	0.97	0.23
07	0.94	0.35	0.96	0.28	0.95	0.32	0.96	0.28	0.96	0.29	0.96	0.27
08	0.93	0.42	0.98	0.24	0.95	0.35	0.98	0.23	0.98	0.19	0.98	0.19
09	0.92	0.46	0.96	0.31	0.94	0.39	0.97	0.29	0.97	0.27	0.97	0.26
10	0.93	0.43	0.97	0.31	0.96	0.35	0.97	0.28	0.97	0.25	0.97	0.25
11	0.88	0.56	0.92	0.45	0.90	0.50	0.93	0.42	0.94	0.37	0.94	0.37
12	0.85	0.63	0.89	0.56	0.88	0.57	0.90	0.52	0.90	0.48	0.91	0.48
13	0.84	0.65	0.88	0.57	0.88	0.58	0.90	0.53	0.89	0.51	0.89	0.51
14	0.87	0.66	0.90	0.57	0.89	0.60	0.91	0.56	0.92	0.50	0.92	0.49
15	0.92	0.55	0.94	0.49	0.93	0.52	0.94	0.49	0.94	0.44	0.96	0.38
16	0.92	0.60	0.94	0.50	0.93	0.56	0.94	0.52	0.96	0.42	0.96	0.37
17	0.91	0.57	0.96	0.40	0.93	0.52	0.95	0.43	0.97	0.31	0.97	0.31
18	0.95	0.47	0.96	0.40	0.96	0.41	0.97	0.39	0.95	0.43	0.96	0.38
19	0.83	0.76	0.87	0.66	0.84	0.74	0.87	0.67	0.87	0.64	0.88	0.62
20	0.89	0.61	0.94	0.47	0.90	0.59	0.93	0.50	0.93	0.47	0.93	0.46
21	0.92	0.50	0.93	0.47	0.93	0.48	0.93	0.47	0.91	0.50	0.93	0.46
22	0.89	0.49	0.93	0.40	0.90	0.47	0.92	0.41	0.89	0.48	0.89	0.47
23	0.90	0.43	0.94	0.35	0.92	0.39	0.94	0.34	0.91	0.38	0.91	0.38

TABLE 3.27

December - Fairbanks Median foF2, 12-month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.79	0.56	0.87	0.45	0.76	0.59	0.87	0.45	0.68	0.68	0.80	0.55
01	0.75	0.56	0.81	0.49	0.73	0.57	0.80	0.50	0.58	0.66	0.67	0.61
02	0.81	0.44	0.84	0.40	0.78	0.44	0.84	0.38	0.66	0.50	0.82	0.39
03	0.72	0.61	0.72	0.61	0.72	0.61	0.73	0.61	0.66	0.63	0.68	0.61
04	0.92	0.34	0.92	0.34	0.91	0.36	0.91	0.36	0.89	0.37	0.91	0.34
05	0.91	0.39	0.91	0.39	0.90	0.42	0.90	0.41	0.87	0.46	0.88	0.44
06	0.90	0.49	0.91	0.48	0.89	0.52	0.90	0.50	0.84	0.60	0.86	0.56
07	0.95	0.34	0.95	0.34	0.94	0.36	0.94	0.36	0.93	0.40	0.94	0.36
08	0.97	0.27	0.98	0.27	0.97	0.28	0.97	0.28	0.96	0.33	0.96	0.32
09	0.97	0.31	0.97	0.29	0.97	0.28	0.98	0.28	0.97	0.30	0.98	0.26
10	0.95	0.51	0.95	0.51	0.96	0.49	0.96	0.49	0.94	0.56	0.95	0.51
11	0.96	0.59	0.96	0.58	0.97	0.55	0.97	0.55	0.95	0.65	0.96	0.58
12	0.96	0.74	0.96	0.69	0.96	0.69	0.96	0.68	0.96	0.74	0.96	0.68
13	0.96	0.75	0.97	0.69	0.97	0.70	0.97	0.68	0.96	0.74	0.96	0.68
14	0.98	0.64	0.98	0.57	0.98	0.58	0.98	0.57	0.98	0.59	0.98	0.51
15	0.98	0.60	0.98	0.58	0.98	0.61	0.98	0.61	0.97	0.69	0.98	0.58
16	0.98	0.59	0.98	0.58	0.98	0.60	0.98	0.60	0.97	0.73	0.98	0.58
17	0.97	0.59	0.97	0.57	0.97	0.64	0.97	0.58	0.94	0.82	0.97	0.60
18	0.96	0.53	0.97	0.51	0.96	0.58	0.96	0.51	0.92	0.73	0.95	0.57
19	0.92	0.52	0.95	0.42	0.90	0.58	0.94	0.44	0.86	0.65	0.91	0.52
20	0.82	0.59	0.86	0.52	0.77	0.64	0.84	0.54	0.71	0.70	0.79	0.61
21	0.70	0.58	0.90	0.35	0.68	0.60	0.92	0.33	0.57	0.67	0.85	0.43
22	0.67	0.62	0.77	0.54	0.64	0.65	0.76	0.55	0.68	0.64	0.73	0.60
23	0.66	0.67	0.71	0.62	0.64	0.68	0.71	0.63	0.59	0.74	0.68	0.67

TABLE 3.28

December - Fairbanks, Median foF2, Monthly Values Ø Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.86	0.47	0.91	0.37	0.84	0.50	0.90	0.41	0.69	0.68	0.77	0.60
01	0.81	0.49	0.87	0.42	0.81	0.49	0.86	0.43	0.46	0.71	0.61	0.63
02	0.87	0.36	0.91	0.31	0.87	0.37	0.91	0.31	0.77	0.47	0.86	0.38
03	0.77	0.56	0.77	0.56	0.77	0.56	0.78	0.56	0.66	0.63	0.67	0.62
04	0.91	0.35	0.93	0.32	0.90	0.37	0.91	0.36	0.91	0.33	0.92	0.31
05	0.90	0.42	0.91	0.40	0.89	0.43	0.90	0.42	0.80	0.49	0.81	0.61
06	0.89	0.52	0.89	0.52	0.88	0.53	0.88	0.53	0.81	0.64	0.83	0.57
07	0.94	0.36	0.95	0.33	0.94	0.37	0.95	0.35	0.93	0.36	0.96	0.27
08	0.97	0.29	0.98	0.24	0.97	0.28	0.98	0.24	0.96	0.30	0.97	0.29
09	0.96	0.34	0.98	0.24	0.97	0.33	0.98	0.24	0.97	0.27	0.98	0.22
10	0.95	0.54	0.96	0.48	0.95	0.51	0.96	0.46	0.94	0.54	0.95	0.48
11	0.95	0.65	0.96	0.57	0.96	0.62	0.96	0.56	0.95	0.62	0.96	0.55
12	0.94	0.89	0.96	0.69	0.94	0.87	0.96	0.72	0.97	0.61	0.97	0.54
13	0.94	0.88	0.97	0.68	0.94	0.89	0.96	0.73	0.96	0.66	0.97	0.58
14	0.96	0.84	0.98	0.57	0.96	0.84	0.98	0.62	0.98	0.58	0.99	0.44
15	0.96	0.79	0.98	0.60	0.96	0.79	0.98	0.66	0.98	0.54	0.99	0.41
16	0.97	0.73	0.98	0.59	0.97	0.73	0.98	0.64	0.97	0.63	0.99	0.45
17	0.98	0.56	0.98	0.53	0.97	0.59	0.97	0.58	0.95	0.74	0.98	0.47
18	0.98	0.41	0.98	0.40	0.97	0.44	0.97	0.44	0.93	0.68	0.97	0.47
19	0.95	0.43	0.95	0.41	0.95	0.43	0.96	0.40	0.87	0.66	0.92	0.51
20	0.82	0.58	0.83	0.56	0.83	0.57	0.84	0.55	0.72	0.71	0.80	0.62
21	0.77	0.52	0.88	0.39	0.77	0.52	0.89	0.38	0.50	0.71	0.79	0.51
22	0.72	0.58	0.77	0.54	0.70	0.61	0.76	0.55	0.65	0.67	0.73	0.60
23	0.72	0.61	0.75	0.59	0.72	0.62	0.74	0.60	0.56	0.76	0.66	0.68

TABLE 3.29

March - Washington Median foF2, 12-month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.87	0.89	0.97	0.46	0.96	0.50	0.97	0.45	0.98	0.39	0.98	0.39
01	0.88	0.84	0.96	0.48	0.96	0.49	0.97	0.46	0.98	0.38	0.98	0.38
02	0.87	0.81	0.96	0.48	0.95	0.51	0.96	0.48	0.97	0.41	0.97	0.41
03	0.87	0.75	0.95	0.46	0.95	0.46	0.96	0.44	0.96	0.40	0.96	0.40
04	0.87	0.70	0.94	0.49	0.95	0.45	0.95	0.44	0.95	0.42	0.96	0.40
05	0.86	0.66	0.93	0.48	0.94	0.44	0.94	0.44	0.95	0.42	0.95	0.40
06	0.88	0.61	0.94	0.45	0.95	0.40	0.95	0.40	0.95	0.42	0.95	0.38
07	0.87	0.79	0.95	0.49	0.95	0.48	0.96	0.46	0.96	0.45	0.96	0.44
08	0.88	1.06	0.95	0.67	0.97	0.54	0.97	0.54	0.97	0.53	0.97	0.51
09	0.87	1.24	0.95	0.81	0.96	0.71	0.96	0.70	0.96	0.67	0.96	0.66
10	0.88	1.31	0.96	0.81	0.96	0.77	0.96	0.74	0.97	0.68	0.97	0.67
11	0.89	1.32	0.96	0.79	0.96	0.80	0.97	0.73	0.97	0.68	0.97	0.68
12	0.89	1.30	0.97	0.64	0.97	0.72	0.98	0.60	0.98	0.56	0.98	0.55
13	0.88	1.29	0.98	0.61	0.97	0.72	0.98	0.59	0.98	0.55	0.98	0.54
14	0.89	1.22	0.98	0.61	0.97	0.70	0.98	0.58	0.98	0.51	0.98	0.51
15	0.89	1.23	0.97	0.62	0.97	0.70	0.98	0.59	0.98	0.56	0.98	0.55
16	0.88	1.24	0.97	0.63	0.96	0.73	0.97	0.61	0.97	0.58	0.97	0.58
17	0.89	1.16	0.97	0.57	0.97	0.66	0.98	0.56	0.98	0.53	0.98	0.53
18	0.89	1.13	0.97	0.55	0.97	0.66	0.98	0.54	0.98	0.53	0.98	0.53
19	0.89	1.01	0.97	0.51	0.97	0.58	0.98	0.49	0.98	0.45	0.98	0.45
20	0.88	1.01	0.97	0.51	0.96	0.58	0.97	0.50	0.98	0.44	0.98	0.44
21	0.88	0.96	0.97	0.47	0.96	0.55	0.97	0.47	0.98	0.40	0.98	0.40
22	0.88	0.90	0.97	0.47	0.96	0.56	0.97	0.48	0.97	0.43	0.97	0.42
23	0.87	0.92	0.96	0.50	0.95	0.56	0.96	0.51	0.97	0.45	0.97	0.45

TABLE 3.30

March - Washington Median foF2, Monthly Values Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.95	0.55	0.99	0.24	0.98	0.38	0.99	0.26	1.00	0.19	1.00	0.16
01	0.96	0.51	0.99	0.25	0.98	0.36	0.99	0.29	0.99	0.23	0.99	0.19
02	0.95	0.51	0.99	0.26	0.98	0.37	0.98	0.30	0.99	0.25	0.99	0.21
03	0.96	0.43	0.99	0.26	0.98	0.30	0.99	0.27	0.98	0.30	0.99	0.25
04	0.96	0.38	0.98	0.27	0.98	0.31	0.98	0.30	0.97	0.34	0.98	0.28
05	0.96	0.36	0.97	0.29	0.97	0.29	0.98	0.29	0.96	0.36	0.97	0.30
06	0.97	0.31	0.98	0.25	0.96	0.35	0.97	0.34	0.96	0.35	0.98	0.26
07	0.96	0.43	0.99	0.26	0.97	0.37	0.98	0.32	0.98	0.33	0.98	0.29
08	0.97	0.57	0.99	0.37	0.99	0.36	0.99	0.32	0.98	0.43	0.99	0.35
09	0.97	0.64	0.99	0.40	0.98	0.45	0.99	0.41	0.98	0.47	0.99	0.35
10	0.96	0.74	0.99	0.43	0.98	0.58	0.98	0.50	0.99	0.47	0.99	0.36
11	0.95	0.87	0.99	0.45	0.97	0.66	0.98	0.51	0.99	0.35	0.99	0.31
12	0.95	0.93	0.99	0.41	0.97	0.66	0.99	0.38	1.00	0.23	1.00	0.23
13	0.95	0.90	0.99	0.39	0.97	0.66	0.99	0.39	1.00	0.22	1.00	0.21
14	0.94	0.91	0.99	0.46	0.97	0.67	0.99	0.46	1.00	0.26	1.00	0.25
15	0.95	0.87	0.99	0.40	0.97	0.62	0.99	0.41	1.00	0.27	1.00	0.25
16	0.95	0.84	0.99	0.36	0.97	0.63	0.99	0.40	1.00	0.25	1.00	0.25
17	0.95	0.78	0.99	0.37	0.97	0.62	0.99	0.42	0.99	0.30	0.99	0.28
18	0.95	0.78	0.99	0.35	0.97	0.61	0.99	0.39	0.99	0.28	0.99	0.26
19	0.95	0.71	0.99	0.35	0.97	0.51	0.99	0.36	0.99	0.25	0.99	0.24
20	0.95	0.66	0.99	0.28	0.98	0.46	0.99	0.30	1.00	0.20	1.00	0.19
21	0.95	0.64	0.99	0.27	0.98	0.44	0.99	0.28	1.00	0.20	1.00	0.19
22	0.94	0.63	0.99	0.29	0.97	0.46	0.99	0.32	0.99	0.22	0.99	0.21
23	0.95	0.60	0.99	0.29	0.97	0.44	0.98	0.33	0.99	0.25	0.99	0.24

TABLE 3.31

June - Washington Median foF2, 12-month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.85	0.85	0.92	0.63	0.88	0.75	0.92	0.61	0.89	0.66	0.91	0.62
01	0.82	0.93	0.89	0.73	0.85	0.83	0.90	0.71	0.86	0.76	0.88	0.72
02	0.81	0.97	0.87	0.81	0.84	0.87	0.87	0.78	0.84	0.82	0.85	0.79
03	0.81	0.94	0.87	0.78	0.84	0.84	0.88	0.75	0.85	0.79	0.86	0.77
04	0.78	0.95	0.83	0.86	0.82	0.87	0.84	0.83	0.82	0.84	0.82	0.84
05	0.71	0.97	0.74	0.92	0.74	0.91	0.75	0.89	0.74	0.90	0.74	0.90
06	0.66	1.07	0.71	0.96	0.69	1.00	0.71	0.98	0.69	1.00	0.69	0.99
07	0.64	1.04	0.71	0.96	0.67	0.98	0.70	0.95	0.67	0.98	0.68	0.97
08	0.69	0.88	0.74	0.81	0.71	0.82	0.74	0.79	0.71	0.81	0.71	0.80
09	0.71	0.79	0.76	0.72	0.72	0.75	0.75	0.72	0.72	0.74	0.73	0.73
10	0.72	0.75	0.79	0.66	0.76	0.68	0.80	0.64	0.75	0.66	0.76	0.65
11	0.72	0.75	0.80	0.65	0.76	0.68	0.81	0.62	0.76	0.66	0.78	0.63
12	0.86	0.44	0.91	0.35	0.89	0.39	0.92	0.33	0.90	0.34	0.92	0.32
13	0.84	0.48	0.92	0.36	0.88	0.43	0.93	0.33	0.90	0.37	0.92	0.32
14	0.86	0.44	0.93	0.32	0.90	0.38	0.95	0.25	0.92	0.31	0.94	0.27
15	0.85	0.44	0.94	0.29	0.89	0.38	0.95	0.25	0.91	0.30	0.95	0.23
16	0.85	0.48	0.94	0.31	0.89	0.41	0.96	0.26	0.91	0.32	0.95	0.25
17	0.84	0.48	0.95	0.28	0.88	0.42	0.96	0.23	0.91	0.32	0.96	0.22
18	0.83	0.49	0.94	0.29	0.86	0.44	0.95	0.28	0.88	0.36	0.94	0.26
19	0.80	0.51	0.94	0.30	0.83	0.47	0.94	0.28	0.86	0.38	0.93	0.27
20	0.87	0.42	0.94	0.29	0.89	0.38	0.94	0.28	0.92	0.31	0.95	0.25
21	0.92	0.43	0.97	0.26	0.94	0.36	0.98	0.22	0.96	0.27	0.98	0.21
22	0.92	0.51	0.97	0.29	0.95	0.43	0.98	0.24	0.97	0.30	0.98	0.22
23	0.93	0.47	0.98	0.27	0.96	0.39	0.99	0.23	0.98	0.25	0.99	0.20

TABLE 3.32

June - Washington Median foF2, Monthly Values Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.86	0.81	0.91	0.64	0.91	0.66	0.92	0.61	0.95	0.46	0.95	0.46
01	0.84	0.87	0.89	0.73	0.89	0.73	0.90	0.70	0.93	0.56	0.93	0.55
02	0.83	0.90	0.87	0.79	0.88	0.76	0.88	0.75	0.91	0.62	0.92	0.58
03	0.83	0.87	0.87	0.76	0.88	0.73	0.89	0.72	0.92	0.60	0.92	0.57
04	0.82	0.87	0.84	0.81	0.87	0.75	0.87	0.75	0.89	0.67	0.91	0.61
05	0.75	0.89	0.77	0.86	0.80	0.81	0.80	0.81	0.82	0.76	0.88	0.63
06	0.70	0.97	0.73	0.94	0.76	0.91	0.76	0.90	0.79	0.85	0.84	0.76
07	0.69	0.96	0.72	0.91	0.74	0.88	0.74	0.88	0.77	0.84	0.81	0.77
08	0.70	0.83	0.74	0.78	0.77	0.75	0.77	0.75	0.81	0.68	0.84	0.62
09	0.72	0.75	0.76	0.71	0.78	0.67	0.78	0.67	0.82	0.61	0.84	0.58
10	0.77	0.68	0.81	0.62	0.83	0.59	0.83	0.59	0.85	0.54	0.86	0.51
11	0.78	0.67	0.83	0.60	0.83	0.59	0.83	0.58	0.86	0.51	0.87	0.50
12	0.87	0.43	0.92	0.35	0.91	0.35	0.93	0.32	0.96	0.21	0.96	0.21
13	0.86	0.47	0.92	0.36	0.90	0.39	0.93	0.34	0.95	0.25	0.96	0.24
14	0.87	0.44	0.93	0.33	0.91	0.36	0.94	0.30	0.96	0.21	0.97	0.19
15	0.86	0.44	0.94	0.30	0.90	0.36	0.95	0.26	0.96	0.20	0.98	0.16
16	0.86	0.46	0.94	0.31	0.91	0.37	0.96	0.26	0.96	0.21	0.97	0.18
17	0.85	0.47	0.95	0.28	0.90	0.39	0.96	0.24	0.96	0.22	0.98	0.17
18	0.81	0.51	0.93	0.32	0.86	0.44	0.94	0.29	0.92	0.29	0.96	0.22
19	0.77	0.53	0.93	0.31	0.82	0.48	0.93	0.30	0.90	0.33	0.94	0.24
20	0.82	0.48	0.92	0.33	0.87	0.42	0.92	0.32	0.92	0.31	0.95	0.25
21	0.91	0.44	0.97	0.27	0.94	0.36	0.97	0.24	0.98	0.21	0.99	0.16
22	0.92	0.52	0.97	0.32	0.95	0.41	0.98	0.27	0.98	0.23	0.99	0.17
23	0.92	0.52	0.97	0.34	0.95	0.41	0.98	0.29	0.98	0.22	0.99	0.20

TABLE 3.33

September - Washington Median foF2, 12-month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.95	0.51	0.96	0.45	0.95	0.50	0.96	0.47	0.89	0.66	0.91	0.62
01	0.95	0.47	0.96	0.44	0.95	0.48	0.95	0.47	0.86	0.76	0.88	0.72
02	0.94	0.51	0.95	0.47	0.94	0.52	0.94	0.50	0.84	0.82	0.85	0.79
03	0.95	0.44	0.95	0.42	0.95	0.44	0.95	0.43	0.85	0.79	0.86	0.77
04	0.94	0.44	0.94	0.43	0.94	0.44	0.94	0.44	0.82	0.84	0.82	0.84
05	0.94	0.44	0.94	0.43	0.94	0.44	0.94	0.44	0.74	0.90	0.74	0.90
06	0.94	0.40	0.94	0.39	0.94	0.40	0.94	0.40	0.69	1.00	0.69	0.99
07	0.95	0.45	0.96	0.43	0.95	0.46	0.95	0.45	0.67	0.98	0.68	0.97
08	0.95	0.55	0.96	0.53	0.95	0.55	0.95	0.55	0.71	0.81	0.71	0.80
09	0.96	0.52	0.97	0.47	0.96	0.52	0.97	0.50	0.72	0.74	0.73	0.73
10	0.96	0.55	0.97	0.49	0.96	0.57	0.96	0.54	0.75	0.66	0.76	0.65
11	0.96	0.55	0.97	0.47	0.96	0.57	0.96	0.53	0.76	0.66	0.78	0.63
12	0.95	0.64	0.96	0.54	0.94	0.67	0.95	0.59	0.90	0.34	0.92	0.32
13	0.94	0.66	0.96	0.53	0.95	0.66	0.96	0.57	0.90	0.37	0.92	0.32
14	0.95	0.64	0.97	0.51	0.95	0.64	0.96	0.55	0.92	0.31	0.94	0.27
15	0.94	0.65	0.97	0.49	0.95	0.64	0.97	0.51	0.91	0.30	0.95	0.23
16	0.95	0.61	0.97	0.43	0.95	0.58	0.97	0.44	0.91	0.32	0.95	0.25
17	0.94	0.60	0.97	0.42	0.95	0.58	0.97	0.43	0.91	0.32	0.96	0.22
18	0.94	0.62	0.97	0.44	0.94	0.59	0.97	0.44	0.88	0.36	0.94	0.26
19	0.94	0.55	0.97	0.39	0.94	0.52	0.97	0.38	0.86	0.38	0.93	0.27
20	0.94	0.49	0.97	0.39	0.95	0.48	0.96	0.40	0.92	0.31	0.95	0.25
21	0.96	0.44	0.97	0.35	0.96	0.43	0.97	0.37	0.96	0.27	0.98	0.21
22	0.95	0.50	0.97	0.42	0.95	0.51	0.96	0.46	0.97	0.30	0.98	0.22
23	0.95	0.52	0.96	0.45	0.95	0.51	0.96	0.46	0.98	0.25	0.99	0.20

TABLE 3.34

September - Washington Median foF2, Monthly Values Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.95	0.49	0.98	0.32	0.96	0.45	0.97	0.38	0.99	0.25	0.99	0.22
01	0.96	0.42	0.98	0.29	0.97	0.40	0.97	0.36	0.98	0.26	0.99	0.20
02	0.94	0.50	0.97	0.34	0.95	0.48	0.96	0.42	0.98	0.28	0.99	0.22
03	0.95	0.43	0.97	0.33	0.96	0.41	0.96	0.38	0.98	0.27	0.99	0.23
04	0.95	0.41	0.96	0.35	0.95	0.42	0.95	0.41	0.97	0.30	0.98	0.24
05	0.95	0.38	0.97	0.31	0.95	0.37	0.96	0.36	0.97	0.28	0.98	0.23
06	0.95	0.37	0.96	0.31	0.95	0.35	0.95	0.34	0.97	0.28	0.98	0.24
07	0.95	0.48	0.97	0.38	0.96	0.45	0.96	0.42	0.98	0.30	0.99	0.25
08	0.96	0.50	0.98	0.38	0.97	0.45	0.97	0.42	0.98	0.36	0.99	0.29
09	0.96	0.52	0.99	0.32	0.97	0.44	0.98	0.38	0.99	0.31	0.99	0.27
10	0.96	0.59	0.98	0.36	0.97	0.49	0.98	0.42	0.99	0.31	0.99	0.28
11	0.96	0.61	0.98	0.37	0.97	0.52	0.98	0.45	0.99	0.28	0.99	0.22
12	0.94	0.69	0.98	0.39	0.95	0.59	0.97	0.45	0.99	0.29	0.99	0.25
13	0.94	0.71	0.99	0.35	0.95	0.60	0.98	0.42	0.99	0.27	0.99	0.26
14	0.94	0.71	0.98	0.37	0.96	0.59	0.98	0.43	0.99	0.27	0.99	0.26
15	0.93	0.72	0.99	0.35	0.95	0.60	0.98	0.40	0.99	0.24	0.99	0.24
16	0.93	0.69	0.99	0.33	0.95	0.57	0.98	0.37	0.99	0.21	0.99	0.21
17	0.93	0.66	0.99	0.28	0.95	0.56	0.98	0.34	0.99	0.24	0.99	0.24
18	0.93	0.66	0.99	0.28	0.94	0.58	0.98	0.36	0.98	0.29	0.99	0.27
19	0.93	0.57	0.99	0.23	0.95	0.50	0.98	0.30	0.99	0.24	0.99	0.21
20	0.94	0.51	0.99	0.24	0.95	0.38	0.97	0.35	0.98	0.29	0.98	0.27
21	0.96	0.47	0.99	0.22	0.96	0.42	0.98	0.32	0.99	0.16	0.99	0.15
22	0.95	0.52	0.99	0.27	0.96	0.47	0.97	0.36	0.99	0.16	1.00	0.15
23	0.95	0.53	0.98	0.33	0.96	0.48	0.97	0.38	0.99	0.21	0.99	0.18

TABLE 3.35

December - Washington Median foF2, 12-month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.97	0.31	0.98	0.26	0.96	0.36	0.98	0.26	0.93	0.48	0.97	0.32
01	0.95	0.41	0.97	0.31	0.93	0.46	0.97	0.30	0.89	0.58	0.95	0.39
02	0.93	0.40	0.96	0.31	0.91	0.45	0.96	0.30	0.86	0.55	0.93	0.38
03	0.91	0.36	0.94	0.31	0.90	0.39	0.94	0.30	0.84	0.48	0.91	0.37
04	0.85	0.40	0.92	0.31	0.83	0.44	0.92	0.30	0.78	0.50	0.89	0.36
05	0.86	0.39	0.92	0.30	0.84	0.42	0.93	0.29	0.78	0.49	0.87	0.39
06	0.90	0.37	0.93	0.31	0.88	0.44	0.93	0.30	0.80	0.49	0.89	0.38
07	0.97	0.27	0.97	0.26	0.96	0.29	0.97	0.25	0.92	0.40	0.94	0.33
08	0.99	0.28	0.99	0.24	0.99	0.25	0.99	0.25	0.98	0.32	0.98	0.29
09	0.98	0.44	0.99	0.38	0.98	0.42	0.99	0.41	0.98	0.46	0.98	0.42
10	0.97	0.62	0.98	0.53	0.97	0.61	0.98	0.58	0.98	0.57	0.98	0.54
11	0.96	0.75	0.98	0.58	0.96	0.73	0.97	0.65	0.97	0.58	0.97	0.58
12	0.97	0.63	0.99	0.43	0.97	0.59	0.98	0.49	0.98	0.45	0.98	0.45
13	0.97	0.66	0.99	0.35	0.97	0.59	0.99	0.41	0.99	0.35	0.99	0.35
14	0.96	0.74	0.99	0.46	0.97	0.69	0.98	0.51	0.98	0.47	0.98	0.46
15	0.95	0.85	0.98	0.50	0.95	0.79	0.98	0.55	0.98	0.53	0.98	0.49
16	0.96	0.73	0.98	0.45	0.96	0.68	0.98	0.49	0.98	0.47	0.98	0.46
17	0.97	0.64	0.99	0.41	0.97	0.59	0.98	0.48	0.99	0.41	0.99	0.41
18	0.97	0.65	0.98	0.52	0.97	0.63	0.98	0.57	0.98	0.53	0.98	0.52
19	0.98	0.48	0.98	0.41	0.98	0.50	0.98	0.48	0.98	0.48	0.98	0.44
20	0.99	0.35	0.99	0.35	0.98	0.42	0.98	0.41	0.97	0.53	0.98	0.38
21	0.98	0.37	0.98	0.35	0.97	0.45	0.98	0.37	0.95	0.58	0.98	0.38
22	0.97	0.38	0.98	0.35	0.96	0.44	0.97	0.37	0.94	0.57	0.97	0.38
23	0.98	0.32	0.98	0.27	0.97	0.38	0.98	0.27	0.93	0.52	0.98	0.31

TABLE 3.36

December - Washington Median foF2, Monthly Values Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.98	0.25	0.98	0.25	0.98	0.26	0.98	0.26	0.94	0.44	0.97	0.32
01	0.96	0.34	0.97	0.32	0.96	0.35	0.97	0.30	0.91	0.53	0.95	0.40
02	0.95	0.33	0.96	0.30	0.95	0.34	0.96	0.29	0.89	0.51	0.94	0.39
03	0.94	0.31	0.95	0.29	0.93	0.32	0.95	0.28	0.86	0.45	0.92	0.36
04	0.90	0.34	0.93	0.28	0.88	0.36	0.93	0.29	0.80	0.48	0.89	0.36
05	0.90	0.34	0.93	0.29	0.88	0.36	0.93	0.29	0.79	0.49	0.86	0.41
06	0.92	0.32	0.94	0.29	0.91	0.34	0.93	0.30	0.83	0.47	0.88	0.40
07	0.98	0.20	0.98	0.20	0.98	0.23	0.98	0.23	0.92	0.40	0.94	0.34
08	0.97	0.42	0.99	0.26	0.97	0.41	0.98	0.29	0.98	0.33	0.98	0.31
09	0.96	0.63	0.99	0.41	0.97	0.62	0.98	0.45	0.98	0.43	0.99	0.39
10	0.95	0.84	0.98	0.54	0.96	0.79	0.98	0.56	0.98	0.46	0.99	0.44
11	0.93	1.01	0.98	0.58	0.94	0.97	0.97	0.62	0.99	0.41	0.99	0.41
12	0.95	0.87	0.99	0.38	0.95	0.83	0.99	0.43	0.99	0.30	0.99	0.30
13	0.94	0.94	0.99	0.37	0.94	0.89	0.99	0.40	1.00	0.21	1.00	0.21
14	0.93	1.02	0.98	0.51	0.93	0.96	0.98	0.52	0.99	0.34	0.99	0.32
15	0.91	1.12	0.98	0.52	0.92	1.07	0.98	0.52	0.99	0.35	0.99	0.29
16	0.92	1.00	0.98	0.48	0.93	0.95	0.98	0.47	0.99	0.30	0.99	0.28
17	0.94	0.91	0.99	0.44	0.95	0.87	0.98	0.48	0.99	0.27	0.99	0.27
18	0.94	0.87	0.98	0.52	0.95	0.83	0.98	0.55	0.98	0.42	0.98	0.42
19	0.96	0.69	0.99	0.40	0.96	0.69	0.98	0.49	0.99	0.35	0.99	0.34
20	0.97	0.49	0.98	0.39	0.97	0.53	0.97	0.48	0.97	0.46	0.99	0.35
21	0.98	0.35	0.98	0.34	0.98	0.39	0.98	0.39	0.96	0.52	0.98	0.35
22	0.97	0.39	0.97	0.38	0.97	0.41	0.97	0.41	0.95	0.51	0.97	0.36
23	0.98	0.29	0.98	0.29	0.98	0.29	0.98	0.29	0.94	0.49	0.97	0.33

TABLE 3.37

March - Maui Median foF2, 12-Month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.91	1.22	0.94	0.97	0.98	0.63	0.98	0.59	0.96	0.79	0.98	0.59
01	0.87	1.16	0.92	0.92	0.97	0.63	0.97	0.58	0.95	0.77	0.96	0.64
02	0.83	1.08	0.88	0.90	0.94	0.65	0.96	0.57	0.91	0.81	0.94	0.68
03	0.78	0.99	0.84	0.87	0.92	0.64	0.94	0.52	0.86	0.81	0.90	0.70
04	0.82	0.79	0.84	0.74	0.93	0.51	0.97	0.34	0.85	0.71	0.92	0.54
05	0.88	0.55	0.90	0.51	0.96	0.32	0.99	0.18	0.90	0.49	0.97	0.28
06	0.88	0.55	0.90	0.49	0.94	0.43	0.95	0.39	0.89	0.53	0.93	0.45
07	0.87	0.66	0.96	0.37	0.96	0.38	0.97	0.36	0.96	0.37	0.96	0.37
08	0.84	1.09	0.95	0.60	0.93	0.77	0.95	0.64	0.93	0.72	0.93	0.69
09	0.89	1.00	0.97	0.51	0.96	0.62	0.98	0.50	0.97	0.54	0.97	0.53
10	0.90	0.95	0.98	0.48	0.97	0.50	0.98	0.43	0.97	0.46	0.97	0.46
11	0.89	0.94	0.96	0.57	0.97	0.55	0.97	0.51	0.96	0.54	0.96	0.54
12	0.89	0.88	0.97	0.46	0.97	0.46	0.98	0.39	0.97	0.42	0.97	0.41
13	0.93	0.69	0.97	0.50	0.96	0.53	0.97	0.50	0.97	0.47	0.97	0.46
14	0.91	0.73	0.95	0.54	0.95	0.56	0.96	0.51	0.95	0.50	0.96	0.49
15	0.89	0.86	0.96	0.50	0.95	0.61	0.97	0.46	0.96	0.47	0.98	0.38
16	0.87	1.00	0.96	0.57	0.93	0.75	0.96	0.54	0.95	0.59	0.98	0.43
17	0.87	1.13	0.96	0.62	0.92	0.86	0.97	0.53	0.95	0.65	0.98	0.44
18	0.87	1.33	0.98	0.60	0.93	0.98	0.98	0.53	0.96	0.68	0.98	0.51
19	0.90	1.54	0.96	0.92	0.95	1.10	0.96	0.93	0.96	0.92	0.96	0.90
20	0.89	1.82	0.96	1.16	0.96	1.15	0.96	1.09	0.96	1.11	0.96	1.09
21	0.86	2.03	0.95	1.27	0.95	1.20	0.96	1.16	0.95	1.24	0.95	1.23
22	0.82	2.29	0.92	1.61	0.93	1.49	0.93	1.47	0.91	1.61	0.91	1.60
23	0.88	1.57	0.94	1.19	0.97	0.82	0.97	0.80	0.96	0.90	0.98	0.70

TABLE 3.38

March - Maui Median foF2 Monthly Values Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.97	0.78	0.97	0.69	0.97	0.66	0.97	0.66	0.97	0.76	0.99	0.33
01	0.98	0.48	0.98	0.45	0.98	0.53	0.98	0.52	0.96	0.66	0.99	0.27
02	0.99	0.33	0.99	0.33	0.97	0.47	0.98	0.41	0.94	0.68	0.99	0.31
03	0.96	0.44	0.96	0.42	0.93	0.58	0.95	0.51	0.89	0.73	0.95	0.49
04	0.95	0.44	0.96	0.40	0.91	0.57	0.94	0.49	0.86	0.69	0.94	0.45
05	0.96	0.31	0.96	0.31	0.94	0.40	0.95	0.35	0.90	0.50	0.97	0.28
06	0.97	0.30	0.97	0.30	0.91	0.50	0.91	0.50	0.91	0.50	0.96	0.35
07	0.95	0.42	0.99	0.23	0.96	0.38	0.97	0.32	0.98	0.26	0.99	0.22
08	0.93	0.78	0.98	0.40	0.94	0.70	0.97	0.52	0.97	0.50	0.97	0.50
09	0.94	0.76	0.99	0.36	0.96	0.64	0.98	0.42	0.99	0.29	0.99	0.29
10	0.93	0.82	0.97	0.48	0.97	0.55	0.98	0.41	0.99	0.34	0.99	0.34
11	0.95	0.64	0.98	0.43	0.96	0.60	0.97	0.50	0.98	0.39	0.98	0.37
12	0.94	0.63	0.98	0.38	0.97	0.45	0.98	0.35	0.99	0.32	0.99	0.31
13	0.91	0.78	0.95	0.63	0.93	0.68	0.95	0.60	0.97	0.48	0.97	0.47
14	0.88	0.84	0.93	0.66	0.93	0.66	0.94	0.57	0.96	0.49	0.96	0.48
15	0.88	0.89	0.95	0.61	0.93	0.71	0.96	0.52	0.97	0.45	0.97	0.41
16	0.88	0.99	0.96	0.56	0.92	0.79	0.97	0.47	0.98	0.45	0.99	0.35
17	0.85	1.23	0.95	0.72	0.90	0.99	0.96	0.62	0.96	0.61	0.98	0.47
18	0.87	1.33	0.97	0.71	0.91	1.14	0.97	0.67	0.98	0.53	0.98	0.45
19	0.91	1.44	0.97	0.83	0.94	1.15	0.97	0.81	0.98	0.70	0.98	0.70
20	0.93	1.45	0.97	0.92	0.96	1.08	0.97	0.94	0.97	0.88	0.98	0.75
21	0.95	1.28	0.98	0.77	0.97	1.02	0.98	0.88	0.98	0.89	0.98	0.77
22	0.94	1.38	0.97	1.02	0.95	1.20	0.96	1.14	0.95	1.20	0.96	1.06
23	0.97	0.81	0.98	0.70	0.98	0.69	0.98	0.69	0.97	0.85	0.99	0.37

TABLE 3.39

June - Maui Median foF2, 12-month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.87	0.78	0.94	0.54	0.90	0.68	0.95	0.48	0.93	0.53	0.95	0.45
01	0.86	0.76	0.92	0.57	0.89	0.68	0.94	0.51	0.91	0.53	0.92	0.50
02	0.88	0.66	0.94	0.46	0.91	0.58	0.95	0.42	0.93	0.46	0.94	0.41
03	0.91	0.55	0.97	0.35	0.94	0.47	0.98	0.29	0.96	0.31	0.97	0.27
04	0.93	0.48	0.98	0.28	0.95	0.40	0.98	0.23	0.98	0.22	0.98	0.20
05	0.93	0.51	0.97	0.34	0.95	0.43	0.98	0.31	0.96	0.34	0.97	0.31
06	0.91	0.50	0.96	0.36	0.94	0.42	0.97	0.33	0.95	0.36	0.95	0.34
07	0.95	0.33	0.97	0.25	0.97	0.28	0.98	0.23	0.97	0.25	0.97	0.25
08	0.94	0.45	0.97	0.30	0.96	0.38	0.98	0.28	0.97	0.30	0.98	0.26
09	0.93	0.55	0.97	0.34	0.95	0.47	0.98	0.31	0.96	0.37	0.98	0.29
10	0.89	0.69	0.95	0.50	0.92	0.62	0.95	0.47	0.93	0.53	0.95	0.43
11	0.90	0.74	0.97	0.42	0.92	0.63	0.97	0.39	0.94	0.52	0.97	0.37
12	0.90	0.65	0.97	0.33	0.92	0.58	0.98	0.33	0.94	0.45	0.98	0.30
13	0.89	0.61	0.97	0.32	0.92	0.53	0.98	0.29	0.95	0.39	0.98	0.26
14	0.87	0.60	0.95	0.38	0.90	0.51	0.96	0.33	0.92	0.39	0.96	0.30
15	0.86	0.60	0.95	0.38	0.90	0.51	0.96	0.33	0.93	0.38	0.95	0.31
16	0.89	0.51	0.95	0.34	0.92	0.43	0.96	0.30	0.94	0.34	0.95	0.29
17	0.85	0.51	0.96	0.28	0.89	0.44	0.96	0.26	0.91	0.37	0.96	0.24
18	0.76	0.47	0.88	0.35	0.81	0.43	0.89	0.35	0.81	0.41	0.85	0.36
19	0.81	0.46	0.86	0.40	0.85	0.43	0.87	0.39	0.84	0.42	0.85	0.41
20	0.72	0.76	0.72	0.75	0.75	0.75	0.75	0.74	0.73	0.75	0.73	0.75
21	0.89	0.61	0.93	0.48	0.91	0.56	0.94	0.46	0.93	0.44	0.94	0.44
22	0.86	0.72	0.94	0.47	0.90	0.64	0.96	0.43	0.93	0.44	0.95	0.39
23	0.86	0.73	0.94	0.48	0.90	0.62	0.96	0.41	0.93	0.45	0.95	0.38

TABLE 3.40

June - Maui Median foF2, Monthly Values Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.87	0.81	0.92	0.65	0.91	0.65	0.94	0.54	0.97	0.36	0.97	0.34
01	0.86	0.79	0.91	0.65	0.91	0.62	0.93	0.54	0.97	0.31	0.97	0.31
02	0.86	0.73	0.91	0.61	0.90	0.59	0.93	0.52	0.97	0.31	0.97	0.30
03	0.90	0.62	0.94	0.49	0.94	0.47	0.96	0.38	0.98	0.23	0.98	0.22
04	0.91	0.57	0.95	0.44	0.95	0.42	0.97	0.33	0.98	0.21	0.98	0.21
05	0.93	0.53	0.96	0.41	0.96	0.36	0.98	0.31	0.99	0.18	0.99	0.17
06	0.94	0.44	0.96	0.34	0.96	0.36	0.97	0.32	0.99	0.19	0.99	0.19
07	0.96	0.31	0.98	0.25	0.98	0.22	0.98	0.21	0.98	0.19	0.99	0.18
08	0.94	0.48	0.96	0.37	0.96	0.36	0.97	0.32	0.99	0.13	0.99	0.13
09	0.93	0.56	0.96	0.40	0.95	0.47	0.97	0.38	0.98	0.26	0.99	0.21
10	0.91	0.66	0.95	0.50	0.93	0.56	0.95	0.48	0.96	0.40	0.97	0.35
11	0.88	0.79	0.95	0.55	0.91	0.67	0.95	0.51	0.94	0.50	0.96	0.40
12	0.90	0.68	0.96	0.46	0.92	0.57	0.96	0.42	0.95	0.42	0.97	0.33
13	0.88	0.66	0.94	0.46	0.92	0.54	0.96	0.40	0.96	0.35	0.97	0.28
14	0.84	0.64	0.91	0.49	0.89	0.54	0.94	0.42	0.94	0.34	0.96	0.30
15	0.84	0.64	0.92	0.46	0.89	0.54	0.94	0.39	0.94	0.35	0.95	0.31
16	0.85	0.57	0.93	0.41	0.90	0.48	0.95	0.35	0.94	0.33	0.95	0.30
17	0.82	0.54	0.93	0.34	0.87	0.47	0.95	0.31	0.93	0.34	0.97	0.23
18	0.78	0.47	0.88	0.37	0.81	0.43	0.87	0.37	0.83	0.39	0.86	0.36
19	0.82	0.47	0.86	0.42	0.83	0.44	0.85	0.43	0.85	0.41	0.85	0.41
20	0.82	0.65	0.82	0.65	0.81	0.67	0.81	0.67	0.79	0.66	0.81	0.64
21	0.89	0.63	0.93	0.54	0.92	0.54	0.93	0.50	0.96	0.34	0.96	0.34
22	0.86	0.77	0.92	0.60	0.90	0.63	0.94	0.51	0.97	0.32	0.97	0.31
23	0.85	0.77	0.92	0.57	0.90	0.62	0.94	0.48	0.97	0.31	0.97	0.29

TABLE 3.41

September - Maui Median foF2, 12-month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.92	1.15	0.93	1.12	0.91	1.22	0.92	1.21	0.92	1.10	0.94	1.01
01	0.93	0.82	0.93	0.82	0.91	0.91	0.91	0.91	0.92	0.84	0.94	0.74
02	0.96	0.54	0.96	0.54	0.94	0.65	0.94	0.65	0.95	0.60	0.96	0.52
03	0.96	0.46	0.96	0.46	0.94	0.56	0.94	0.56	0.94	0.53	0.96	0.42
04	0.96	0.39	0.96	0.39	0.94	0.46	0.94	0.46	0.94	0.46	0.95	0.40
05	0.94	0.39	0.94	0.39	0.92	0.45	0.93	0.45	0.93	0.41	0.94	0.38
06	0.97	0.26	0.97	0.24	0.96	0.29	0.96	0.28	0.97	0.25	0.98	0.22
07	0.95	0.43	0.97	0.32	0.95	0.41	0.97	0.34	0.98	0.28	0.98	0.28
08	0.89	0.79	0.90	0.75	0.88	0.82	0.89	0.79	0.89	0.75	0.89	0.75
09	0.95	0.65	0.97	0.53	0.95	0.66	0.96	0.57	0.97	0.48	0.97	0.48
10	0.95	0.72	0.97	0.58	0.95	0.73	0.96	0.62	0.97	0.54	0.97	0.54
11	0.94	0.80	0.95	0.68	0.94	0.81	0.95	0.71	0.95	0.65	0.95	0.65
12	0.93	0.80	0.95	0.68	0.93	0.80	0.95	0.70	0.95	0.63	0.95	0.63
13	0.92	0.82	0.96	0.60	0.92	0.80	0.96	0.61	0.95	0.60	0.95	0.59
14	0.90	0.87	0.95	0.65	0.91	0.85	0.95	0.65	0.93	0.66	0.94	0.64
15	0.85	1.02	0.93	0.70	0.86	1.00	0.93	0.70	0.89	0.82	0.92	0.71
16	0.82	0.92	0.93	0.59	0.83	0.90	0.93	0.59	0.87	0.76	0.92	0.61
17	0.83	0.81	0.92	0.57	0.82	0.81	0.91	0.58	0.87	0.67	0.89	0.61
18	0.90	0.85	0.97	0.45	0.90	0.84	0.97	0.44	0.95	0.57	0.97	0.45
19	0.94	1.04	0.97	0.72	0.94	1.04	0.96	0.78	0.97	0.68	0.97	0.67
20	0.94	1.20	0.97	0.93	0.94	1.21	0.96	1.02	0.97	0.81	0.97	0.80
21	0.96	1.07	0.97	0.89	0.95	1.13	0.96	1.02	0.97	0.79	0.98	0.77
22	0.96	1.01	0.97	0.94	0.95	1.12	0.96	1.09	0.97	0.92	0.98	0.81
23	0.95	1.07	0.96	1.00	0.95	1.09	0.95	1.07	0.96	0.95	0.97	0.86

TABLE 3.42

September - Maui Median foF2, Monthly Values Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.90	1.28	0.93	1.09	0.91	1.22	0.92	1.17	0.95	0.95	0.96	0.77
01	0.91	0.92	0.92	0.86	0.91	0.93	0.91	0.91	0.93	0.81	0.94	0.71
02	0.94	0.65	0.96	0.59	0.94	0.66	0.94	0.65	0.96	0.57	0.97	0.50
03	0.95	0.51	0.95	0.47	0.94	0.56	0.94	0.55	0.95	0.50	0.97	0.37
04	0.95	0.44	0.96	0.38	0.95	0.42	0.96	0.41	0.95	0.41	0.96	0.36
05	0.93	0.42	0.95	0.36	0.93	0.43	0.94	0.42	0.95	0.35	0.96	0.30
06	0.96	0.29	0.98	0.21	0.97	0.27	0.97	0.25	0.98	0.18	0.99	0.15
07	0.93	0.50	0.98	0.30	0.94	0.45	0.96	0.37	0.99	0.22	0.99	0.21
08	0.87	0.85	0.90	0.75	0.87	0.84	0.89	0.78	0.89	0.75	0.89	0.75
09	0.92	0.82	0.98	0.46	0.94	0.72	0.97	0.55	0.98	0.44	0.98	0.44
10	0.92	0.91	0.97	0.57	0.94	0.80	0.96	0.64	0.98	0.49	0.98	0.49
11	0.91	0.95	0.96	0.63	0.93	0.83	0.96	0.67	0.97	0.57	0.97	0.56
12	0.90	0.94	0.96	0.63	0.93	0.81	0.95	0.66	0.97	0.55	0.97	0.55
13	0.89	0.94	0.96	0.55	0.92	0.80	0.96	0.55	0.96	0.52	0.97	0.50
14	0.86	1.03	0.94	0.68	0.89	0.91	0.94	0.68	0.94	0.62	0.95	0.59
15	0.81	1.14	0.93	0.71	0.85	1.03	0.92	0.75	0.91	0.77	0.94	0.60
16	0.77	1.02	0.93	0.61	0.81	0.95	0.91	0.66	0.88	0.72	0.95	0.50
17	0.79	0.88	0.93	0.51	0.82	0.83	0.92	0.58	0.89	0.62	0.93	0.50
18	0.86	0.98	0.98	0.42	0.89	0.88	0.96	0.51	0.95	0.53	0.98	0.35
19	0.92	1.18	0.98	0.54	0.93	1.06	0.97	0.73	0.98	0.49	0.99	0.46
20	0.92	1.41	0.98	0.80	0.94	1.25	0.96	0.96	0.99	0.44	0.99	0.42
21	0.94	1.25	0.98	0.71	0.95	1.13	0.97	0.92	1.00	0.37	1.00	0.30
22	0.95	1.21	0.97	0.84	0.96	1.07	0.97	0.97	0.98	0.65	0.99	0.52
23	0.93	1.22	0.96	0.95	0.95	1.07	0.96	0.99	0.98	0.72	0.98	0.59

TABLE 3.43

December - Maui Median foF2, 12-month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.92	0.84	0.92	0.81	0.90	0.90	0.92	0.84	0.87	1.04	0.90	0.89
01	0.88	0.89	0.89	0.87	0.87	0.95	0.88	0.90	0.83	1.06	0.85	0.98
02	0.91	0.57	0.93	0.51	0.90	0.61	0.93	0.52	0.83	0.75	0.89	0.63
03	0.88	0.50	0.94	0.37	0.86	0.54	0.93	0.40	0.78	0.67	0.88	0.51
04	0.93	0.34	0.97	0.21	0.91	0.38	0.97	0.21	0.87	0.46	0.94	0.33
05	0.94	0.31	0.97	0.23	0.92	0.35	0.96	0.24	0.88	0.44	0.93	0.33
06	0.94	0.33	0.97	0.22	0.93	0.38	0.97	0.23	0.87	0.48	0.94	0.34
07	0.98	0.26	0.98	0.25	0.98	0.29	0.98	0.25	0.95	0.43	0.97	0.33
08	0.98	0.48	0.98	0.42	0.98	0.46	0.98	0.44	0.98	0.47	0.98	0.43
09	0.97	0.66	0.98	0.48	0.97	0.61	0.98	0.51	0.98	0.48	0.98	0.47
10	0.94	0.81	0.98	0.47	0.95	0.74	0.98	0.44	0.97	0.50	0.98	0.44
11	0.93	0.83	0.97	0.57	0.94	0.78	0.97	0.53	0.96	0.56	0.97	0.51
12	0.89	1.13	0.95	0.78	0.90	1.08	0.95	0.79	0.92	0.87	0.93	0.80
13	0.85	1.21	0.92	0.90	0.86	1.20	0.92	0.93	0.89	1.03	0.91	0.94
14	0.80	1.27	0.90	0.93	0.80	1.27	0.89	0.96	0.82	1.12	0.88	0.95
15	0.83	1.21	0.95	0.71	0.83	1.19	0.94	0.75	0.87	0.93	0.92	0.74
16	0.88	1.28	0.97	0.67	0.89	1.21	0.96	0.71	0.93	0.92	0.96	0.70
17	0.91	1.29	0.96	0.84	0.91	1.25	0.95	0.94	0.94	0.96	0.95	0.87
18	0.95	1.02	0.97	0.79	0.95	1.03	0.96	0.93	0.97	0.79	0.97	0.79
19	0.99	0.53	0.99	0.52	0.98	0.65	0.98	0.64	0.97	0.73	0.99	0.51
20	0.98	0.59	0.99	0.52	0.97	0.76	0.98	0.62	0.94	1.05	0.97	0.71
21	0.98	0.68	0.98	0.62	0.97	0.81	0.97	0.70	0.93	1.11	0.96	0.85
22	0.98	0.58	0.99	0.49	0.97	0.69	0.98	0.54	0.93	1.04	0.97	0.76
23	0.96	0.68	0.97	0.63	0.95	0.74	0.97	0.64	0.92	0.95	0.95	0.74

TABLE 3.44

December - Maui Median foF2, Monthly Values Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.92	0.82	0.92	0.82	0.93	0.79	0.93	0.79	0.88	0.98	0.92	0.81
01	0.89	0.88	0.89	0.88	0.90	0.85	0.90	0.85	0.85	1.00	0.87	0.93
02	0.93	0.51	0.94	0.49	0.94	0.48	0.95	0.46	0.86	0.71	0.91	0.58
03	0.92	0.42	0.94	0.36	0.93	0.41	0.95	0.35	0.77	0.66	0.90	0.46
04	0.93	0.33	0.95	0.29	0.93	0.34	0.95	0.29	0.85	0.49	0.92	0.37
05	0.94	0.31	0.94	0.30	0.94	0.32	0.94	0.30	0.87	0.44	0.91	0.37
06	0.95	0.32	0.95	0.30	0.94	0.32	0.96	0.29	0.87	0.49	0.92	0.39
07	0.97	0.32	0.97	0.31	0.97	0.31	0.98	0.30	0.95	0.42	0.97	0.33
08	0.95	0.70	0.98	0.45	0.95	0.67	0.98	0.46	0.98	0.39	0.98	0.37
09	0.93	0.99	0.98	0.55	0.94	0.94	0.98	0.57	0.98	0.44	0.98	0.44
10	0.90	1.06	0.97	0.55	0.91	0.99	0.98	0.44	0.98	0.44	0.98	0.40
11	0.87	1.10	0.96	0.65	0.89	1.01	0.97	0.52	0.97	0.44	0.97	0.43
12	0.83	1.38	0.95	0.77	0.85	1.30	0.96	0.72	0.94	0.72	0.96	0.62
13	0.79	1.44	0.93	0.85	0.81	1.38	0.93	0.85	0.90	0.88	0.93	0.74
14	0.73	1.46	0.91	0.87	0.75	1.41	0.91	0.89	0.83	0.99	0.92	0.70
15	0.75	1.44	0.96	0.65	0.77	1.39	0.95	0.70	0.87	0.91	0.95	0.58
16	0.81	1.61	0.97	0.62	0.82	1.54	0.97	0.70	0.92	0.92	0.97	0.58
17	0.85	1.62	0.97	0.73	0.86	1.56	0.96	0.84	0.94	0.91	0.97	0.70
18	0.91	1.39	0.98	0.65	0.91	1.38	0.96	0.87	0.97	0.79	0.97	0.77
19	0.95	0.97	0.98	0.71	0.96	0.96	0.97	0.81	0.97	0.78	0.97	0.72
20	0.97	0.84	0.97	0.79	0.97	0.81	0.97	0.79	0.94	1.10	0.95	0.94
21	0.96	0.86	0.96	0.82	0.97	0.81	0.97	0.80	0.92	1.16	0.94	1.02
22	0.97	0.76	0.97	0.75	0.97	0.75	0.97	0.75	0.91	1.15	0.93	1.01
23	0.97	0.65	0.97	0.65	0.97	0.64	0.97	0.64	0.92	0.95	0.94	0.79

TABLE 3.45

March - Huancayo Median foF2, 12-month Smoothed Means ∅, Rz, IF2

Hour LST	∅ Linear Corr Coeff	∅ Linear RMS dev.	∅ 2nd Degree Corr Coeff	∅ 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.75	0.75	0.83	0.62	0.74	0.74	0.91	0.45	0.76	0.60	0.89	0.42
01	0.75	0.75	0.87	0.56	0.81	0.65	0.90	0.48	0.83	0.48	0.85	0.46
02	0.83	0.76	0.93	0.49	0.93	0.51	0.94	0.47	0.92	0.49	0.92	0.48
03	0.85	0.80	0.93	0.55	0.94	0.50	0.95	0.49	0.92	0.56	0.93	0.53
04	0.81	0.93	0.93	0.59	0.94	0.56	0.94	0.55	0.91	0.64	0.91	0.64
05	0.74	0.96	0.85	0.76	0.88	0.71	0.88	0.71	0.81	0.83	0.82	0.82
06	0.84	0.71	0.92	0.49	0.94	0.45	0.94	0.45	0.92	0.50	0.92	0.49
07	0.87	0.79	0.96	0.43	0.97	0.42	0.97	0.39	0.96	0.44	0.96	0.44
08	0.87	1.01	0.97	0.47	0.97	0.49	0.98	0.42	0.97	0.50	0.97	0.50
09	0.87	1.12	0.97	0.56	0.96	0.62	0.97	0.52	0.96	0.61	0.96	0.61
10	0.87	1.22	0.96	0.67	0.96	0.75	0.97	0.65	0.95	0.74	0.95	0.74
11	0.82	1.41	0.95	0.76	0.93	0.94	0.95	0.83	0.92	0.92	0.92	0.91
12	0.85	1.23	0.96	0.65	0.93	0.88	0.95	0.76	0.94	0.79	0.94	0.77
13	0.86	1.06	0.97	0.50	0.92	0.84	0.96	0.64	0.95	0.66	0.95	0.61
14	0.84	1.03	0.95	0.57	0.90	0.83	0.95	0.62	0.93	0.65	0.95	0.57
15	0.83	0.99	0.95	0.55	0.90	0.79	0.95	0.54	0.93	0.60	0.95	0.50
16	0.83	0.92	0.94	0.56	0.89	0.77	0.95	0.53	0.92	0.61	0.94	0.53
17	0.80	0.95	0.94	0.56	0.86	0.80	0.94	0.51	0.90	0.64	0.94	0.50
18	0.82	0.79	0.95	0.43	0.87	0.66	0.97	0.33	0.91	0.49	0.96	0.32
19	0.83	0.63	0.92	0.43	0.85	0.58	0.94	0.36	0.88	0.46	0.92	0.37
20	0.58	0.87	0.74	0.72	0.59	0.84	0.79	0.63	0.58	0.77	0.73	0.65
21	0.61	0.87	0.64	0.84	0.51	0.91	0.71	0.75	0.50	0.88	0.66	0.76
22	0.66	0.89	0.74	0.80	0.64	0.89	0.80	0.69	0.67	0.81	0.79	0.68
23	0.70	0.84	0.80	0.70	0.71	0.81	0.89	0.53	0.73	0.68	0.87	0.49

TABLE 3.46

March Huancayo Median foF2, Monthly Values Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.62	0.87	0.86	0.56	0.70	0.78	0.89	0.50	0.80	0.59	0.94	0.34
01	0.77	0.72	0.89	0.52	0.82	0.64	0.88	0.53	0.89	0.42	0.91	0.39
02	0.93	0.50	0.96	0.38	0.95	0.42	0.95	0.40	0.94	0.43	0.95	0.40
03	0.96	0.44	0.97	0.39	0.96	0.44	0.96	0.44	0.94	0.53	0.95	0.45
04	0.96	0.50	0.97	0.43	0.95	0.53	0.95	0.51	0.94	0.56	0.95	0.53
05	0.93	0.58	0.93	0.58	0.88	0.70	0.88	0.70	0.86	0.75	0.89	0.69
06	0.96	0.36	0.97	0.33	0.95	0.42	0.95	0.41	0.94	0.45	0.95	0.41
07	0.96	0.46	0.98	0.30	0.96	0.44	0.97	0.37	0.98	0.33	0.98	0.30
08	0.95	0.67	0.98	0.38	0.97	0.49	0.99	0.36	0.98	0.38	0.99	0.36
09	0.94	0.80	0.98	0.45	0.96	0.66	0.98	0.48	0.98	0.43	0.98	0.43
10	0.94	0.90	0.98	0.55	0.95	0.83	0.97	0.63	0.98	0.52	0.98	0.51
11	0.95	0.84	0.98	0.50	0.94	0.84	0.97	0.65	0.97	0.64	0.97	0.64
12	0.95	0.78	0.99	0.42	0.94	0.81	0.97	0.61	0.98	0.52	0.98	0.51
13	0.92	0.85	0.98	0.42	0.93	0.80	0.97	0.53	0.97	0.50	0.97	0.48
14	0.90	0.90	0.96	0.57	0.91	0.80	0.96	0.56	0.96	0.58	0.96	0.53
15	0.86	0.95	0.95	0.58	0.90	0.77	0.96	0.51	0.94	0.59	0.96	0.52
16	0.85	0.93	0.94	0.59	0.90	0.74	0.95	0.51	0.93	0.63	0.94	0.57
17	0.80	0.99	0.94	0.57	0.86	0.79	0.94	0.52	0.91	0.65	0.94	0.55
18	0.79	0.88	0.94	0.49	0.86	0.69	0.96	0.39	0.92	0.54	0.95	0.43
19	0.74	0.78	0.92	0.46	0.81	0.63	0.92	0.42	0.89	0.49	0.91	0.44
20	0.49	0.95	0.78	0.68	0.59	0.84	0.77	0.66	0.65	0.78	0.74	0.69
21	0.40	1.01	0.72	0.77	0.48	0.93	0.71	0.74	0.57	0.88	0.70	0.77
22	0.58	0.98	0.79	0.74	0.65	0.88	0.79	0.71	0.72	0.81	0.81	0.68
23	0.61	0.95	0.82	0.68	0.68	0.84	0.85	0.61	0.76	0.72	0.89	0.51

TABLE 3.47

June - Huancayo Median foF2, 12-month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.91	0.67	0.96	0.44	0.94	0.58	0.97	0.37	0.96	0.41	0.97	0.36
01	0.94	0.56	0.97	0.38	0.96	0.48	0.98	0.34	0.97	0.39	0.97	0.37
02	0.95	0.46	0.97	0.39	0.97	0.39	0.98	0.34	0.97	0.33	0.97	0.33
03	0.93	0.49	0.97	0.30	0.94	0.46	0.97	0.32	0.96	0.34	0.97	0.32
04	0.90	0.52	0.94	0.39	0.91	0.51	0.95	0.39	0.91	0.43	0.93	0.40
05	0.89	0.41	0.91	0.36	0.84	0.56	0.87	0.52	0.86	0.54	0.86	0.53
06	0.91	0.48	0.94	0.40	0.91	0.53	0.92	0.49	0.90	0.50	0.90	0.50
07	0.93	0.47	0.95	0.39	0.95	0.43	0.96	0.38	0.95	0.37	0.95	0.37
08	0.94	0.56	0.96	0.44	0.96	0.48	0.97	0.39	0.96	0.40	0.96	0.40
09	0.93	0.63	0.95	0.51	0.95	0.55	0.96	0.46	0.95	0.47	0.95	0.47
10	0.93	0.67	0.95	0.55	0.95	0.58	0.96	0.50	0.94	0.55	0.95	0.54
11	0.95	0.54	0.97	0.40	0.96	0.49	0.98	0.39	0.97	0.42	0.97	0.41
12	0.95	0.54	0.98	0.37	0.96	0.50	0.98	0.38	0.97	0.41	0.97	0.40
13	0.95	0.52	0.98	0.36	0.96	0.47	0.98	0.36	0.97	0.40	0.97	0.40
14	0.94	0.52	0.98	0.30	0.96	0.47	0.98	0.31	0.97	0.36	0.97	0.33
15	0.92	0.56	0.98	0.32	0.94	0.51	0.97	0.34	0.96	0.39	0.97	0.34
16	0.90	0.55	0.97	0.31	0.93	0.49	0.97	0.30	0.95	0.36	0.96	0.30
17	0.88	0.56	0.96	0.35	0.91	0.51	0.96	0.32	0.94	0.36	0.96	0.30
18	0.86	0.50	0.94	0.33	0.89	0.46	0.95	0.31	0.92	0.33	0.94	0.29
19	0.87	0.54	0.92	0.41	0.90	0.48	0.94	0.36	0.91	0.37	0.93	0.34
20	0.84	0.67	0.94	0.42	0.88	0.59	0.96	0.34	0.91	0.41	0.96	0.27
21	0.81	0.65	0.93	0.42	0.85	0.57	0.95	0.33	0.89	0.39	0.96	0.24
22	0.86	0.60	0.96	0.34	0.89	0.54	0.97	0.27	0.94	0.34	0.97	0.24
23	0.88	0.71	0.96	0.43	0.91	0.62	0.97	0.36	0.94	0.42	0.96	0.35

TABLE 3.48

June - Huancayo Median foF2, Monthly Values Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.92	0.64	0.96	0.48	0.94	0.54	0.97	0.40	0.97	0.21	0.98	0.29
01	0.94	0.56	0.97	0.42	0.96	0.49	0.97	0.40	0.97	0.34	0.98	0.34
02	0.95	0.47	0.97	0.39	0.97	0.37	0.98	0.33	0.98	0.30	0.98	0.29
03	0.94	0.30	0.97	0.37	0.95	0.45	0.97	0.35	0.95	0.37	0.96	0.35
04	0.93	0.45	0.97	0.31	0.94	0.44	0.97	0.32	0.92	0.42	0.93	0.39
05	0.91	0.44	0.93	0.40	0.87	0.51	0.89	0.46	0.84	0.57	0.86	0.54
06	0.93	0.49	0.94	0.44	0.92	0.49	0.93	0.46	0.90	0.50	0.91	0.49
07	0.93	0.49	0.95	0.42	0.95	0.42	0.96	0.39	0.97	0.32	0.97	0.32
08	0.94	0.57	0.96	0.47	0.96	0.47	0.97	0.42	0.97	0.36	0.97	0.36
09	0.93	0.64	0.95	0.54	0.95	0.55	0.96	0.50	0.96	0.44	0.96	0.44
10	0.95	0.59	0.97	0.48	0.96	0.52	0.97	0.47	0.96	0.49	0.96	0.49
11	0.95	0.57	0.97	0.46	0.97	0.48	0.97	0.42	0.97	0.42	0.97	0.42
12	0.95	0.58	0.97	0.46	0.96	0.48	0.97	0.42	0.97	0.42	0.97	0.42
13	0.95	0.54	0.97	0.42	0.96	0.47	0.97	0.40	0.97	0.41	0.97	0.41
14	0.93	0.57	0.96	0.43	0.95	0.48	0.97	0.39	0.97	0.35	0.97	0.33
15	0.91	0.63	0.95	0.49	0.94	0.53	0.95	0.45	0.96	0.37	0.97	0.35
16	0.89	0.62	0.94	0.46	0.92	0.50	0.95	0.39	0.96	0.33	0.96	0.31
17	0.89	0.57	0.94	0.42	0.92	0.48	0.96	0.35	0.96	0.29	0.97	0.26
18	0.88	0.50	0.93	0.39	0.91	0.43	0.94	0.33	0.96	0.25	0.96	0.24
19	0.90	0.49	0.93	0.40	0.92	0.43	0.94	0.37	0.96	0.26	0.96	0.25
20	0.86	0.64	0.93	0.45	0.89	0.56	0.95	0.39	0.95	0.31	0.98	0.21
21	0.84	0.61	0.92	0.43	0.87	0.55	0.94	0.36	0.93	0.32	0.97	0.20
22	0.88	0.59	0.95	0.39	0.90	0.52	0.96	0.32	0.96	0.27	0.98	0.18
23	0.90	0.67	0.95	0.47	0.93	0.56	0.97	0.40	0.97	0.30	0.98	0.27

TABLE 3.49

September - Huancayo Median foF2, 12-month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.81	0.53	0.92	0.36	0.83	0.51	0.93	0.33	0.87	0.36	0.89	0.33
01	0.86	0.48	0.93	0.36	0.87	0.47	0.93	0.36	0.90	0.36	0.91	0.36
02	0.92	0.42	0.96	0.32	0.92	0.42	0.95	0.34	0.94	0.34	0.94	0.34
03	0.94	0.37	0.96	0.30	0.94	0.37	0.96	0.32	0.95	0.32	0.95	0.31
04	0.93	0.37	0.96	0.29	0.94	0.34	0.96	0.28	0.94	0.30	0.94	0.30
05	0.91	0.42	0.93	0.37	0.91	0.41	0.93	0.37	0.91	0.38	0.91	0.38
06	0.93	0.51	0.98	0.31	0.94	0.47	0.97	0.33	0.97	0.32	0.97	0.30
07	0.96	0.49	0.99	0.29	0.96	0.48	0.98	0.35	0.98	0.31	0.98	0.31
08	0.96	0.60	0.98	0.41	0.96	0.58	0.98	0.46	0.98	0.39	0.98	0.39
09	0.96	0.65	0.98	0.48	0.97	0.64	0.98	0.54	0.98	0.49	0.98	0.48
10	0.97	0.63	0.98	0.53	0.97	0.67	0.97	0.62	0.97	0.61	0.97	0.58
11	0.98	0.54	0.98	0.50	0.98	0.55	0.98	0.53	0.97	0.54	0.98	0.48
12	0.96	0.60	0.98	0.47	0.97	0.57	0.98	0.49	0.97	0.47	0.98	0.46
13	0.94	0.65	0.98	0.43	0.95	0.62	0.97	0.48	0.97	0.44	0.97	0.44
14	0.94	0.60	0.97	0.40	0.94	0.58	0.97	0.43	0.97	0.39	0.97	0.39
15	0.93	0.60	0.97	0.43	0.93	0.59	0.96	0.46	0.96	0.42	0.96	0.42
16	0.92	0.59	0.96	0.41	0.93	0.56	0.96	0.41	0.95	0.39	0.95	0.39
17	0.91	0.56	0.96	0.40	0.92	0.53	0.96	0.40	0.96	0.35	0.96	0.35
18	0.87	0.56	0.92	0.45	0.88	0.54	0.92	0.45	0.91	0.39	0.92	0.39
19	0.85	0.42	0.89	0.36	0.86	0.41	0.89	0.36	0.87	0.32	0.88	0.32
20	0.81	0.54	0.87	0.46	0.80	0.54	0.87	0.46	0.81	0.46	0.81	0.46
21	0.83	0.53	0.90	0.41	0.84	0.52	0.91	0.44	0.85	0.43	0.87	0.41
22	0.87	0.51	0.91	0.43	0.87	0.52	0.92	0.42	0.89	0.41	0.89	0.41
23	0.80	0.61	0.88	0.48	0.80	0.61	0.89	0.46	0.83	0.48	0.83	0.47

TABLE 3.50

September - Huancayo Median foF2, Monthly Values Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.75	0.60	0.90	0.39	0.79	0.55	0.92	0.37	0.86	0.37	0.88	0.35
01	0.82	0.55	0.94	0.34	0.86	0.49	0.93	0.34	0.92	0.34	0.92	0.34
02	0.90	0.49	0.97	0.28	0.93	0.42	0.97	0.29	0.95	0.31	0.96	0.30
03	0.90	0.48	0.95	0.34	0.93	0.40	0.95	0.33	0.94	0.35	0.94	0.35
04	0.89	0.45	0.95	0.30	0.94	0.35	0.97	0.25	0.93	0.33	0.94	0.31
05	0.90	0.43	0.94	0.33	0.92	0.39	0.94	0.33	0.91	0.38	0.92	0.36
06	0.88	0.65	0.95	0.43	0.92	0.55	0.95	0.42	0.95	0.41	0.96	0.37
07	0.93	0.62	0.99	0.27	0.96	0.50	0.98	0.31	0.98	0.28	0.99	0.26
08	0.94	0.72	0.99	0.33	0.97	0.55	0.99	0.32	0.99	0.26	0.99	0.26
09	0.95	0.78	0.99	0.41	0.97	0.58	0.99	0.36	0.99	0.34	0.99	0.34
10	0.96	0.77	0.99	0.43	0.98	0.58	0.99	0.43	0.98	0.47	0.98	0.47
11	0.97	0.62	0.99	0.41	0.98	0.44	0.99	0.36	0.98	0.45	0.98	0.43
12	0.95	0.69	0.98	0.40	0.98	0.48	0.99	0.32	0.99	0.36	0.99	0.36
13	0.92	0.76	0.98	0.39	0.95	0.59	0.98	0.34	0.98	0.32	0.99	0.31
14	0.91	0.71	0.98	0.36	0.95	0.57	0.98	0.34	0.98	0.28	0.99	0.27
15	0.90	0.70	0.97	0.38	0.94	0.57	0.97	0.37	0.98	0.30	0.98	0.30
16	0.88	0.70	0.97	0.39	0.93	0.55	0.98	0.32	0.96	0.34	0.97	0.33
17	0.88	0.66	0.96	0.41	0.92	0.55	0.96	0.37	0.96	0.35	0.96	0.35
18	0.82	0.66	0.93	0.43	0.86	0.59	0.94	0.41	0.92	0.37	0.92	0.37
19	0.81	0.47	0.89	0.36	0.85	0.42	0.91	0.33	0.88	0.31	0.89	0.30
20	0.76	0.59	0.87	0.46	0.80	0.55	0.88	0.43	0.83	0.44	0.83	0.44
21	0.79	0.58	0.89	0.43	0.83	0.53	0.91	0.39	0.86	0.42	0.87	0.40
22	0.82	0.60	0.90	0.46	0.85	0.56	0.91	0.43	0.88	0.42	0.88	0.42
23	0.73	0.70	0.87	0.50	0.76	0.67	0.89	0.48	0.83	0.47	0.84	0.47

TABLE 3.51

December - Huancayo Median foF2, 12-month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.90	0.80	0.98	0.39	0.91	0.75	0.98	0.36	0.95	0.49	0.98	0.33
01	0.93	0.83	0.97	0.55	0.94	0.78	0.97	0.57	0.97	0.47	0.97	0.47
02	0.95	0.70	0.99	0.37	0.96	0.60	0.99	0.37	0.98	0.38	0.98	0.36
03	0.96	0.68	0.97	0.57	0.96	0.67	0.96	0.63	0.96	0.61	0.96	0.58
04	0.96	0.64	0.97	0.56	0.96	0.62	0.96	0.60	0.95	0.61	0.95	0.59
05	0.95	0.61	0.95	0.58	0.95	0.58	0.95	0.57	0.93	0.63	0.94	0.60
06	0.97	0.40	0.98	0.33	0.98	0.35	0.98	0.32	0.98	0.31	0.98	0.30
07	0.97	0.45	0.99	0.25	0.98	0.38	0.99	0.25	0.99	0.22	0.99	0.22
08	0.95	0.62	0.99	0.33	0.96	0.55	0.99	0.35	0.99	0.32	0.99	0.29
09	0.95	0.66	0.99	0.27	0.96	0.59	0.99	0.27	0.99	0.29	0.99	0.22
10	0.95	0.65	0.99	0.29	0.96	0.58	0.99	0.30	0.99	0.31	0.99	0.25
11	0.93	0.80	0.98	0.40	0.94	0.74	0.98	0.43	0.97	0.50	0.98	0.41
12	0.92	0.82	0.97	0.55	0.93	0.78	0.96	0.58	0.95	0.61	0.95	0.58
13	0.93	0.79	0.97	0.49	0.93	0.75	0.97	0.53	0.95	0.56	0.96	0.52
14	0.88	0.93	0.97	0.49	0.88	0.90	0.96	0.56	0.92	0.68	0.94	0.56
15	0.83	1.01	0.97	0.46	0.84	0.99	0.96	0.52	0.88	0.77	0.94	0.56
16	0.84	0.89	0.98	0.33	0.85	0.86	0.98	0.34	0.91	0.64	0.97	0.35
17	0.78	0.98	0.97	0.36	0.80	0.95	0.97	0.39	0.84	0.76	0.95	0.45
18	0.78	0.92	0.96	0.39	0.79	0.89	0.97	0.37	0.84	0.68	0.95	0.39
19	0.78	0.82	0.92	0.52	0.79	0.79	0.93	0.47	0.83	0.58	0.94	0.36
20	0.76	0.88	0.91	0.56	0.78	0.85	0.92	0.52	0.84	0.55	0.93	0.38
21	0.74	0.97	0.87	0.71	0.75	0.94	0.88	0.67	0.77	0.72	0.85	0.59
22	0.77	1.14	0.92	0.72	0.78	1.09	0.92	0.66	0.81	0.80	0.89	0.62
23	0.80	0.97	0.90	0.70	0.81	0.96	0.90	0.71	0.84	0.85	0.94	0.56

TABLE 3.52

December - Huancayo Median foF2, Monthly Values Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.84	1.00	0.96	0.51	0.85	0.96	0.96	0.50	0.93	0.55	0.95	0.44
01	0.88	1.07	0.97	0.53	0.89	1.04	0.97	0.59	0.96	0.54	0.96	0.53
02	0.90	0.97	0.97	0.56	0.91	0.93	0.97	0.52	0.96	0.51	0.96	0.51
03	0.94	0.82	0.97	0.54	0.94	0.80	0.97	0.58	0.97	0.53	0.97	0.53
04	0.95	0.72	0.97	0.51	0.95	0.70	0.97	0.52	0.96	0.53	0.96	0.53
05	0.93	0.69	0.95	0.60	0.94	0.64	0.96	0.55	0.94	0.59	0.95	0.54
06	0.95	0.52	0.98	0.33	0.96	0.48	0.98	0.31	0.98	0.29	0.98	0.28
07	0.94	0.63	0.99	0.27	0.95	0.59	0.99	0.23	1.00	0.15	1.00	0.15
08	0.93	0.78	0.99	0.25	0.93	0.74	0.99	0.23	0.99	0.24	0.99	0.23
09	0.91	0.88	0.99	0.27	0.92	0.83	0.99	0.24	0.99	0.27	0.99	0.23
10	0.92	0.87	0.99	0.31	0.92	0.83	0.99	0.31	0.98	0.32	0.99	0.30
11	0.89	1.00	0.98	0.44	0.90	0.98	0.98	0.47	0.96	0.52	0.97	0.45
12	0.89	0.97	0.97	0.52	0.89	0.96	0.97	0.57	0.94	0.61	0.95	0.58
13	0.89	0.97	0.97	0.47	0.89	0.96	0.97	0.51	0.94	0.57	0.95	0.55
14	0.83	1.09	0.97	0.47	0.83	1.09	0.96	0.53	0.91	0.67	0.93	0.58
15	0.76	1.16	0.97	0.44	0.77	1.15	0.96	0.48	0.87	0.71	0.91	0.60
16	0.77	1.05	0.98	0.36	0.78	1.02	0.98	0.35	0.90	0.55	0.94	0.42
17	0.71	1.12	0.97	0.39	0.72	1.09	0.97	0.40	0.84	0.66	0.94	0.43
18	0.70	1.04	0.95	0.48	0.72	1.01	0.95	0.44	0.83	0.60	0.93	0.40
19	0.71	0.92	0.89	0.59	0.74	0.87	0.92	0.52	0.81	0.51	0.91	0.36
20	0.71	0.95	0.91	0.58	0.75	0.91	0.93	0.50	0.83	0.50	0.92	0.35
21	0.70	1.04	0.87	0.71	0.73	0.99	0.91	0.61	0.79	0.56	0.86	0.47
22	0.71	1.25	0.91	0.73	0.74	1.20	0.95	0.57	0.84	0.63	0.93	0.44
23	0.75	1.08	0.90	0.73	0.77	1.05	0.90	0.70	0.87	0.60	0.94	0.42

TABLE 3.53

March - Christchurch Median foF2, 12-month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.85	0.77	0.94	0.49	0.93	0.54	0.94	0.51	0.96	0.38	0.97	0.35
01	0.84	0.80	0.93	0.52	0.92	0.58	0.93	0.54	0.97	0.38	0.97	0.33
02	0.85	0.77	0.94	0.52	0.93	0.54	0.94	0.52	0.97	0.35	0.98	0.32
03	0.84	0.79	0.94	0.51	0.92	0.56	0.93	0.53	0.95	0.44	0.95	0.43
04	0.85	0.73	0.93	0.51	0.92	0.52	0.93	0.51	0.95	0.43	0.95	0.43
05	0.82	0.78	0.89	0.63	0.90	0.59	0.90	0.59	0.92	0.54	0.92	0.53
06	0.87	0.55	0.93	0.41	0.93	0.42	0.93	0.41	0.94	0.36	0.95	0.36
07	0.72	0.82	0.78	0.75	0.77	0.76	0.78	0.75	0.87	0.61	0.88	0.59
08	0.70	1.07	0.73	1.03	0.74	0.99	0.74	0.99	0.86	0.76	0.87	0.75
09	0.75	1.06	0.79	0.99	0.82	0.93	0.82	0.93	0.89	0.76	0.89	0.76
10	0.78	1.10	0.82	1.02	0.85	0.93	0.85	0.93	0.90	0.79	0.90	0.79
11	0.75	1.18	0.78	1.12	0.81	1.05	0.81	1.04	0.92	0.74	0.92	0.74
12	0.79	1.13	0.82	1.06	0.83	1.01	0.84	1.01	0.95	0.57	0.96	0.56
13	0.77	1.18	0.82	1.05	0.84	0.98	0.84	0.98	0.97	0.49	0.97	0.49
14	0.83	1.01	0.87	0.87	0.88	0.87	0.88	0.86	0.97	0.47	0.97	0.45
15	0.84	0.93	0.89	0.77	0.90	0.72	0.91	0.72	0.97	0.40	0.98	0.39
16	0.81	1.02	0.85	0.87	0.86	0.87	0.87	0.87	0.95	0.58	0.95	0.54
17	0.80	1.02	0.86	0.88	0.84	0.95	0.85	0.93	0.93	0.67	0.94	0.61
18	0.82	0.97	0.89	0.78	0.87	0.85	0.88	0.80	0.92	0.69	0.93	0.62
19	0.87	0.76	0.94	0.54	0.93	0.56	0.94	0.53	0.95	0.50	0.95	0.48
20	0.85	0.76	0.94	0.51	0.92	0.57	0.93	0.51	0.94	0.49	0.95	0.45
21	0.85	0.75	0.95	0.44	0.92	0.55	0.95	0.45	0.94	0.46	0.95	0.40
22	0.86	0.74	0.96	0.39	0.94	0.49	0.96	0.41	0.96	0.40	0.97	0.35
23	0.86	0.73	0.95	0.47	0.94	0.47	0.95	0.45	0.97	0.35	0.97	0.33

TABLE 3.54

March - Christchurch Median foF2, Monthly Values Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.87	0.70	0.96	0.41	0.94	0.51	0.96	0.38	0.98	0.30	0.98	0.27
01	0.89	0.67	0.96	0.39	0.94	0.50	0.97	0.38	0.99	0.25	0.99	0.22
02	0.90	0.64	0.96	0.40	0.94	0.50	0.96	0.39	0.99	0.22	0.99	0.20
03	0.89	0.66	0.97	0.37	0.94	0.48	0.96	0.38	0.97	0.35	0.97	0.34
04	0.90	0.59	0.96	0.36	0.94	0.46	0.96	0.39	0.97	0.32	0.97	0.32
05	0.88	0.64	0.93	0.49	0.93	0.51	0.93	0.49	0.95	0.44	0.95	0.44
06	0.88	0.53	0.95	0.34	0.92	0.43	0.94	0.37	0.95	0.33	0.96	0.31
07	0.76	0.78	0.83	0.66	0.78	0.74	0.82	0.68	0.90	0.54	0.90	0.54
08	0.70	1.05	0.77	0.94	0.74	0.98	0.77	0.94	0.89	0.69	0.89	0.69
09	0.80	0.97	0.84	0.87	0.82	0.93	0.84	0.89	0.92	0.66	0.92	0.66
10	0.82	1.00	0.86	0.90	0.84	0.95	0.86	0.91	0.92	0.70	0.93	0.68
11	0.82	1.03	0.85	0.95	0.83	1.01	0.84	0.99	0.95	0.58	0.95	0.57
12	0.83	1.03	0.86	0.93	0.85	0.98	0.86	0.94	0.97	0.43	0.97	0.43
13	0.85	0.97	0.88	0.85	0.89	0.84	0.89	0.83	0.99	0.26	0.99	0.25
14	0.88	0.87	0.92	0.72	0.90	0.80	0.91	0.74	0.99	0.26	0.99	0.26
15	0.90	0.74	0.94	0.60	0.93	0.63	0.94	0.59	1.00	0.16	1.00	0.16
16	0.86	0.87	0.91	0.70	0.89	0.80	0.91	0.72	0.98	0.36	0.98	0.36
17	0.85	0.92	0.91	0.74	0.86	0.90	0.90	0.76	0.97	0.46	0.97	0.44
18	0.84	0.93	0.92	0.67	0.86	0.86	0.92	0.65	0.95	0.55	0.95	0.52
19	0.89	0.70	0.96	0.45	0.92	0.61	0.96	0.45	0.97	0.37	0.97	0.36
20	0.86	0.73	0.95	0.44	0.91	0.61	0.96	0.42	0.96	0.39	0.97	0.34
21	0.85	0.73	0.97	0.36	0.92	0.55	0.97	0.34	0.97	0.34	0.98	0.27
22	0.87	0.70	0.97	0.36	0.93	0.51	0.97	0.32	0.98	0.29	0.98	0.26
23	0.90	0.63	0.96	0.39	0.95	0.47	0.97	0.35	0.99	0.24	0.99	0.23

TABLE 3.55

June - Christchurch Median foF2, 12-month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.92	0.32	0.94	0.27	0.64	1.27	0.64	1.26	0.64	1.25	0.67	1.24
01	0.92	0.31	0.93	0.27	0.90	0.34	0.93	0.29	0.89	0.35	0.92	0.30
02	0.92	0.30	0.93	0.29	0.91	0.32	0.92	0.29	0.92	0.31	0.93	0.28
03	0.92	0.29	0.92	0.29	0.91	0.30	0.91	0.29	0.93	0.27	0.93	0.27
04	0.93	0.30	0.94	0.28	0.92	0.32	0.93	0.29	0.93	0.31	0.94	0.28
05	0.95	0.26	0.95	0.26	0.93	0.29	0.94	0.26	0.94	0.27	0.96	0.24
06	0.95	0.24	0.96	0.23	0.75	0.83	0.75	0.83	0.76	0.83	0.78	0.79
07	0.73	0.47	0.74	0.47	0.56	1.12	0.56	1.12	0.56	1.14	0.57	1.13
08	0.85	0.64	0.90	0.52	0.84	0.77	0.86	0.72	0.85	0.74	0.85	0.73
09	0.94	0.64	0.96	0.50	0.96	0.57	0.97	0.51	0.96	0.51	0.96	0.51
10	0.96	0.67	0.97	0.57	0.97	0.56	0.97	0.53	0.97	0.57	0.97	0.56
11	0.97	0.62	0.97	0.58	0.98	0.54	0.98	0.54	0.97	0.61	0.97	0.57
12	0.97	0.63	0.97	0.59	0.97	0.62	0.97	0.62	0.96	0.69	0.96	0.66
13	0.97	0.65	0.98	0.54	0.97	0.60	0.98	0.57	0.97	0.60	0.97	0.60
14	0.95	0.75	0.97	0.64	0.96	0.69	0.97	0.64	0.96	0.67	0.96	0.67
15	0.97	0.53	0.98	0.48	0.96	0.63	0.97	0.62	0.96	0.65	0.96	0.63
16	0.98	0.46	0.98	0.45	0.96	0.66	0.96	0.66	0.95	0.72	0.96	0.66
17	0.96	0.69	0.96	0.69	0.93	0.96	0.93	0.96	0.91	1.04	0.92	0.97
18	0.94	0.66	0.95	0.65	0.89	1.05	0.89	1.05	0.87	1.08	0.88	1.06
19	0.96	0.51	0.96	0.51	0.86	1.15	0.86	1.15	0.84	1.18	0.85	1.14
20	0.96	0.43	0.96	0.43	0.82	1.17	0.82	1.17	0.81	1.19	0.82	1.15
21	0.96	0.33	0.96	0.33	0.76	1.18	0.76	1.18	0.75	1.19	0.77	1.16
22	0.96	0.29	0.96	0.28	0.70	1.29	0.70	1.29	0.70	1.31	0.71	1.28
23	0.93	0.34	0.94	0.32	0.69	1.19	0.69	1.19	0.69	1.21	0.71	1.18

TABLE 3.56

June - Christchurch Median foF2, Monthly Values Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.71	1.16	0.74	1.12	0.65	1.25	0.67	1.23	0.59	1.36	0.60	1.34
01	0.88	0.37	0.90	0.34	0.87	0.38	0.91	0.32	0.87	0.39	0.90	0.34
02	0.89	0.34	0.90	0,33	0.90	0.33	0.92	0.30	0.90	0.34	0.92	0.30
03	0.91	0.29	0.91	0.29	0.91	0.29	0.93	0.27	0.92	0.29	0.92	0.28
04	0.91	0.34	0.91	0.33	0.89	0.37	0.92	0.31	0.91	0.34	0.94	0.29
05	0.92	0.32	0.92	0.32	0.91	0.34	0.92	0.31	0.93	0.31	0.94	0.27
06	0.80	0.75	0.81	0.73	0.75	0.83	0.76	0.81	0.72	0.89	0.73	0.88
07	0.63	1.06	0.63	1.05	0.57	1.11	0.58	1.11	0.53	1.17	0.54	1.16
08	0.84	0.77	0.86	0.72	0.85	0.75	0.85	0.75	0.86	0.72	0.86	0.71
09	0.95	0.64	0.96	0.56	0.97	0.48	0.97	0.47	0.98	0.41	0.98	0.38
10	0.96	0.69	0.96	0.64	0.98	0.49	0.98	0.49	0.97	0.50	0.98	0.40
11	0.96	0.68	0.97	0.65	0.98	0.48	0.98	0.48	0.97	0.63	0.98	0.51
12	0.97	0.61	0.97	0.59	0.98	0.54	0.98	0.53	0.95	0.74	0.96	0.66
13	0.97	0.68	0.97	0.62	0.98	0.53	0.98	0.53	0.97	0.59	0.98	0.53
14	0.96	0.72	0.97	0.67	0.97	0.61	0.97	0.61	0.98	0.53	0.98	0.50
15	0.97	0.59	0.97	0.58	0.97	0.54	0.97	0.54	0.95	0.72	0.95	0.68
16	0.97	0.59	0.97	0.59	0.97	0.63	0.97	0.62	0.94	0.83	0.94	0.78
17	0.96	0.75	0.96	0.75	0.94	0.88	0.94	0.85	0.89	1.13	0.90	1.07
18	0.93	0.85	0.93	0.85	0.91	0.96	0.91	0.95	0.85	1.14	0.86	1.11
19	0.90	0.98	0.90	0.97	0.87	1.12	0.87	1.10	0.80	1.29	0.81	1.27
20	0.86	1.02	0.87	1.01	0.82	1.15	0.83	1.13	0.77	1.28	0.78	1.26
21	0.82	1.05	0.82	1.03	0.77	1.16	0.77	1.15	0.71	1.28	0.71	1.26
22	0.76	1.17	0.77	1.15	0.71	1.27	0.72	1.26	0.65	1.38	0.66	1.37
23	0.76	1.08	0.77	1.04	0.70	1.17	0.72	1.14	0.64	1.28	0.65	1.27

TABLE 3.57

September - Christchurch Median foF2, 12-month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.94	0.66	0.96	0.55	0.93	0.68	0.95	0.59	0.96	0.51	0.96	0.51
01	0.92	0.70	0.94	0.59	0.92	0.72	0.94	0.63	0.94	0.56	0.94	0.56
02	0.93	0.63	0.95	0.55	0.92	0.66	0.94	0.60	0.95	0.51	0.95	0.51
03	0.92	0.67	0.93	0.63	0.91	0.70	0.92	0.67	0.93	0.58	0.94	0.57
04	0.92	0.62	0.93	0.60	0.91	0.67	0.91	0.66	0.93	0.57	0.94	0.55
05	0.92	0.56	0.93	0.55	0.91	0.61	0.91	0.61	0.93	0.52	0.94	0.49
06	0.90	0.51	0.92	0.45	0.89	0.52	0.90	0.49	0.93	0.43	0.93	0.42
07	0.92	0.57	0.93	0.51	0.91	0.59	0.92	0.55	0.94	0.47	0.95	0.45
08	0.92	0.71	0.95	0.55	0.91	0.72	0.94	0.61	0.95	0.52	0.95	0.52
09	0.93	0.83	0.93	0.79	0.92	0.88	0.92	0.85	0.94	0.72	0.95	0.66
10	0.93	0.92	0.94	0.84	0.92	1.00	0.93	0.94	0.95	0.77	0.95	0.73
11	0.94	0.89	0.95	0.78	0.93	0.96	0.94	0.89	0.96	0.72	0.96	0.70
12	0.95	0.81	0.97	0.65	0.94	0.86	0.95	0.75	0.97	0.59	0.97	0.59
13	0.94	0.85	0.96	0.68	0.93	0.90	0.95	0.77	0.96	0.64	0.96	0.63
14	0.95	0.71	0.97	0.55	0.94	0.75	0.96	0.64	0.97	0.50	0.97	0.50
15	0.94	0.76	0.97	0.59	0.93	0.82	0.95	0.69	0.96	0.57	0.96	0.57
16	0.94	0.73	0.96	0.58	0.93	0.79	0.95	0.67	0.96	0.56	0.96	0.56
17	0.87	0.96	0.93	0.72	0.87	0.99	0.92	0.81	0.90	0.81	0.90	0.80
18	0.91	0.88	0.95	0.65	0.90	0.92	0.94	0.74	0.93	0.72	0.93	0.71
19	0.93	0.73	0.97	0.51	0.92	0.76	0.96	0.58	0.95	0.56	0.95	0.55
20	0.93	0.67	0.96	0.50	0.93	0.69	0.96	0.54	0.96	0.50	0.96	0.49
21	0.94	0.64	0.96	0.50	0.94	0.66	0.96	0.55	0.96	0.48	0.96	0.48
22	0.96	0.52	0.97	0.43	0.96	0.52	0.97	0.46	0.97	0.39	0.97	0.39
23	0.94	0.62	0.96	0.53	0.94	0.63	0.96	0.55	0.96	0.47	0.96	0.47

TABLE 3.58

September - Christchurch Median foF2, Monthly Values Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.93	0.67	0.98	0.34	0.94	0.64	0.97	0.49	0.98	0.37	0.98	0.37
01	0.91	0.73	0.97	0.41	0.92	0.72	0.95	0.55	0.97	0.41	0.97	0.41
02	0.93	0.64	0.97	0.40	0.92	0.65	0.95	0.54	0.97	0.41	0.97	0.41
03	0.91	0.68	0.96	0.49	0.91	0.69	0.93	0.61	0.95	0.49	0.96	0.46
04	0.92	0.61	0.96	0.47	0.92	0.64	0.93	0.59	0.96	0.46	0.96	0.42
05	0.93	0.55	0.96	0.42	0.92	0.58	0.93	0.55	0.96	0.38	0.97	0.33
06	0.87	0.59	0.92	0.45	0.87	0.58	0.89	0.53	0.95	0.35	0.96	0.32
07	0.88	0.68	0.93	0.52	0.89	0.65	0.91	0.59	0.96	0.38	0.97	0.34
08	0.88	0.83	0.96	0.50	0.91	0.75	0.94	0.61	0.97	0.39	0.97	0.39
09	0.92	0.88	0.95	0.71	0.92	0.85	0.93	0.80	0.97	0.51	0.99	0.34
10	0.91	1.05	0.95	0.77	0.91	1.04	0.93	0.92	0.97	0.57	0.98	0.46
11	0.92	0.98	0.97	0.64	0.93	0.95	0.95	0.82	0.98	0.46	0.99	0.39
12	0.93	0.94	0.98	0.49	0.94	0.88	0.96	0.69	0.99	0.30	0.99	0.29
13	0.91	0.97	0.98	0.51	0.92	0.92	0.96	0.70	0.98	0.40	0.99	0.40
14	0.93	0.82	0.98	0.41	0.94	0.76	0.97	0.59	0.99	0.29	0.99	0.28
15	0.91	0.91	0.98	0.47	0.93	0.84	0.96	0.63	0.98	0.40	0.98	0.39
16	0.92	0.83	0.98	0.42	0.94	0.76	0.97	0.56	0.99	0.35	0.99	0.34
17	0.85	1.04	0.95	0.63	0.88	0.94	0.93	0.73	0.91	0.77	0.92	0.72
18	0.89	0.96	0.97	0.49	0.91	0.88	0.95	0.63	0.95	0.63	0.95	0.59
19	0.91	0.80	0.99	0.31	0.93	0.73	0.97	0.47	0.97	0.42	0.98	0.39
20	0.93	0.70	0.99	0.24	0.94	0.65	0.98	0.41	0.98	0.33	0.98	0.32
21	0.94	0.66	0.99	0.27	0.94	0.63	0.97	0.45	0.98	0.33	0.98	0.32
22	0.96	0.52	0.99	0.23	0.96	0.48	0.98	0.36	0.98	0.30	0.98	0.30
23	0.94	0.63	0.98	0.35	0.94	0.61	0.97	0.48	0.98	0.35	0.98	0.35

TABLE 3.59

December - Christchurch Median foF2, 12-month Smoothed Means Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.86	0.62	0.97	0.31	0.88	0.58	0.97	0.30	0.92	0.44	0.96	0.30
01	0.87	0.58	0.98	0.26	0.89	0.55	0.97	0.28	0.93	0.40	0.97	0.27
02	0.89	0.51	0.98	0.22	0.91	0.48	0.99	0.20	0.95	0.32	0.99	0.17
03	0.90	0.49	0.98	0.24	0.91	0.47	0.97	0.29	0.95	0.32	0.98	0.24
04	0.91	0.46	0.96	0.30	0.92	0.44	0.95	0.35	0.95	0.32	0.96	0.31
05	0.81	0.60	0.87	0.50	0.81	0.58	0.85	0.53	0.84	0.53	0.84	0.53
06	0.77	0.67	0.85	0.56	0.77	0.66	0.82	0.60	0.81	0.61	0.82	0.59
07	0.74	0.77	0.84	0.61	0.74	0.75	0.82	0.65	0.78	0.69	0.80	0.66
08	0.80	0.66	0.90	0.49	0.80	0.64	0.87	0.52	0.84	0.55	0.85	0.53
09	0.82	0.66	0.91	0.47	0.83	0.64	0.90	0.49	0.86	0.55	0.88	0.50
10	0.84	0.63	0.91	0.47	0.84	0.61	0.90	0.50	0.87	0.52	0.88	0.50
11	0.84	0.63	0.93	0.43	0.85	0.61	0.92	0.46	0.88	0.51	0.90	0.48
12	0.87	0.57	0.95	0.36	0.87	0.55	0.94	0.39	0.91	0.45	0.92	0.41
13	0.87	0.57	0.95	0.37	0.88	0.55	0.94	0.39	0.91	0.43	0.93	0.40
14	0.88	0.52	0.96	0.29	0.89	0.49	0.96	0.32	0.93	0.36	0.94	0.32
15	0.86	0.55	0.97	0.28	0.87	0.52	0.96	0.31	0.92	0.40	0.94	0.33
16	0.84	0.57	0.97	0.28	0.86	0.54	0.96	0.28	0.90	0.43	0.95	0.31
17	0.84	0.59	0.97	0.28	0.85	0.56	0.97	0.28	0.89	0.44	0.95	0.28
18	0.81	0.61	0.95	0.31	0.82	0.59	0.96	0.31	0.86	0.49	0.95	0.29
19	0.79	0.60	0.96	0.27	0.80	0.59	0.97	0.25	0.84	0.48	0.96	0.24
20	0.71	0.61	0.95	0.27	0.73	0.59	0.95	0.28	0.76	0.51	0.93	0.30
21	0.78	0.66	0.95	0.33	0.80	0.64	0.95	0.35	0.84	0.53	0.94	0.34
22	0.58	1.08	0.80	0.79	0.60	1.08	0.78	0.84	0.60	1.03	0.76	0.84
23	0.84	0.68	0.95	0.37	0.85	0.66	0.95	0.40	0.89	0.52	0.94	0.39

TABLE 3.60

December - Christchurch Median foF2, Monthly Values of Ø, Rz, IF2

Hour LST	Ø Linear Corr Coeff	Ø Linear RMS dev.	Ø 2nd Degree Corr Coeff	Ø 2nd Degree RMS dev.	Rz Linear Corr Coeff	Rz Linear RMS dev.	Rz 2nd Degree Corr Coeff	Rz 2nd Degree RMS dev.	IF2 Linear Corr Coeff	IF2 Linear RMS dev.	IF2 2nd Degree Corr Coeff	IF2 2nd Degree RMS dev.
00	0.81	0.69	0.95	0.36	0.82	0.68	0.95	0.37	0.91	0.42	0.94	0.34
01	0.82	0.67	0.97	0.28	0.83	0.66	0.96	0.31	0.92	0.39	0.94	0.33
02	0.83	0.63	0.97	0.29	0.84	0.61	0.97	0.29	0.93	0.35	0.94	0.32
03	0.85	0.61	0.98	0.24	0.85	0.60	0.97	0.30	0.95	0.32	0.96	0.28
04	0.87	0.56	0.97	0.28	0.87	0.56	0.95	0.35	0.96	0.30	0.96	0.29
05	0.76	0.66	0.89	0.47	0.76	0.66	0.86	0.52	0.88	0.47	0.89	0.45
06	0.74	0.71	0.87	0.52	0.74	0.72	0.84	0.57	0.85	0.55	0.86	0.53
07	0.70	0.81	0.86	0.59	0.71	0.80	0.84	0.61	0.81	0.64	0.82	0.62
08	0.74	0.73	0.91	0.44	0.75	0.72	0.90	0.48	0.86	0.51	0.87	0.50
09	0.77	0.73	0.92	0.44	0.79	0.71	0.92	0.46	0.88	0.49	0.91	0.44
10	0.79	0.70	0.92	0.44	0.81	0.68	0.92	0.46	0.91	0.44	0.92	0.41
11	0.80	0.70	0.94	0.38	0.81	0.68	0.94	0.39	0.91	0.42	0.93	0.39
12	0.82	0.65	0.97	0.30	0.83	0.64	0.96	0.31	0.94	0.34	0.95	0.31
13	0.83	0.64	0.97	0.29	0.84	0.62	0.97	0.29	0.95	0.31	0.95	0.29
14	0.83	0.60	0.98	0.23	0.84	0.59	0.98	0.24	0.95	0.28	0.96	0.25
15	0.81	0.64	0.98	0.21	0.82	0.62	0.97	0.24	0.93	0.33	0.96	0.27
16	0.78	0.66	0.97	0.25	0.80	0.64	0.97	0.24	0.92	0.33	0.96	0.23
17	0.78	0.68	0.96	0.30	0.79	0.65	0.96	0.29	0.90	0.36	0.97	0.20
18	0.75	0.69	0.95	0.33	0.76	0.68	0.94	0.35	0.85	0.43	0.94	0.27
19	0.71	0.68	0.95	0.30	0.73	0.67	0.95	0.30	0.83	0.40	0.95	0.23
20	0.65	0.66	0.92	0.34	0.67	0.65	0.92	0.33	0.75	0.45	0.90	0.29
21	0.73	0.72	0.93	0.40	0.74	0.71	0.93	0.39	0.83	0.48	0.91	0.36
22	0.57	1.10	0.73	0.91	0.58	1.09	0.74	0.90	0.56	0.99	0.69	0.87
23	0.79	0.75	0.95	0.40	0.80	0.74	0.94	0.42	0.90	0.47	0.93	0.38

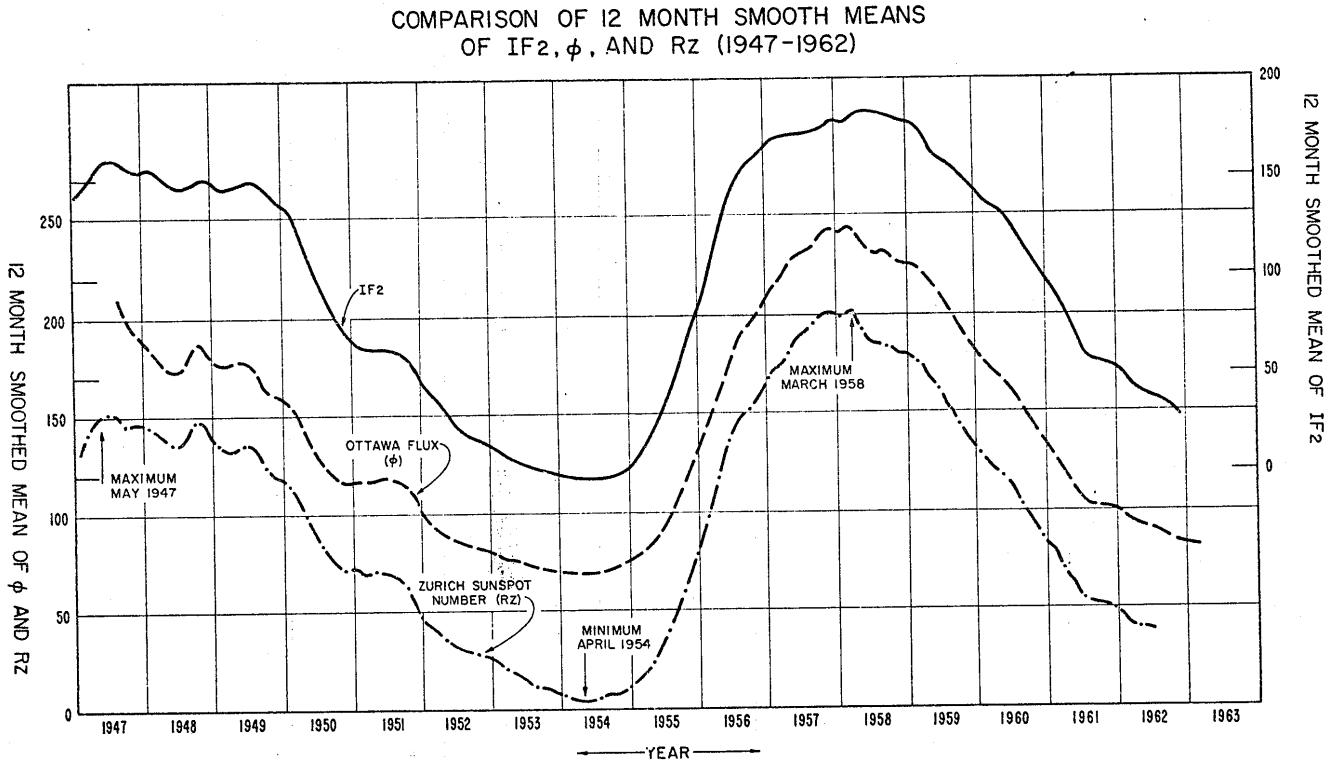
COMPARISON OF 12 MONTH SMOOTH MEANS
OF IF2, ϕ, AND Rz (1947-1962)
12 MONTH SMOOTHED MEAN OF ϕ AND Rz
12 MONTH SMOOTHED MEAN OF IF2
IF2
OTTAWA FLUX (ϕ)
ZURICH SUNSPOT NUMBER (RZ)
MAXIMUM MAY 1947
MINIMUM APRIL 1954
MAXIMUM MARCH 1958
YEAR
0
50
100
150
200
250
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961
1962
1963

Figure 1.1

VARIATION OF OTTAWA 10.7cm FLUX (ϕ) WITH ZURICH SUNSPOT NUMBER (Rz)
(12 MONTH SMOOTHED MEANS FEB. 1947 - DEC. 1962)

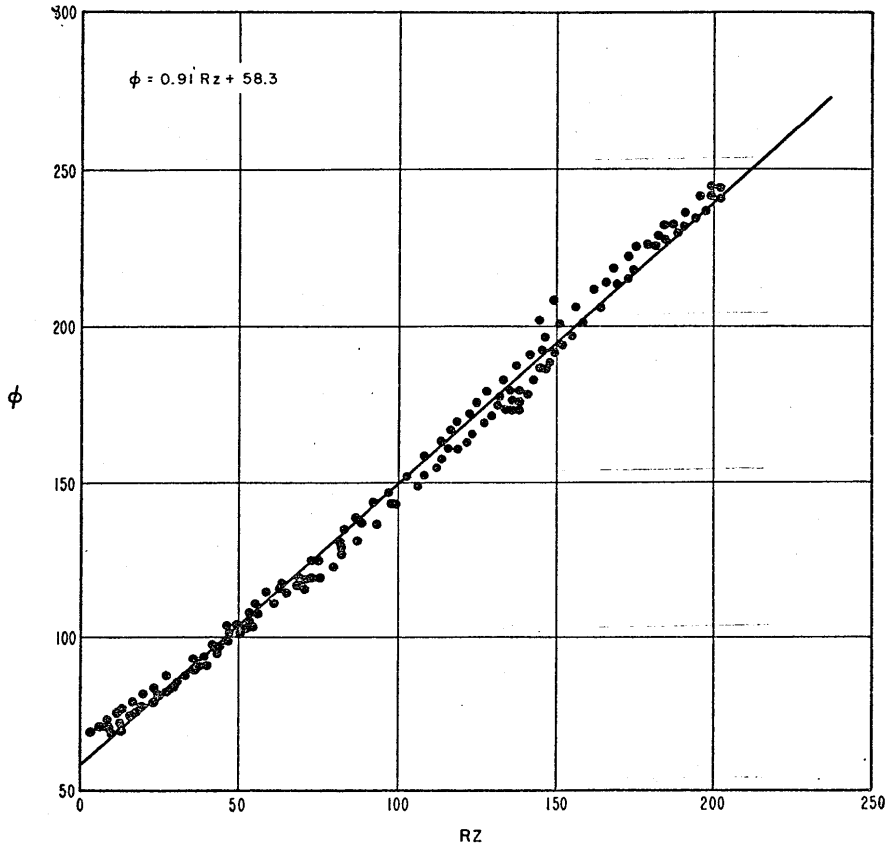

Figure 1.2 a

VARIATION OF OTTAWA 10.7cm FLUX (ϕ) WITH ZURICH SUNSPOT NUMBER (Rz)
(12 MONTH SMOOTHED MEANS, MAY. 1947 - APR. 1954)

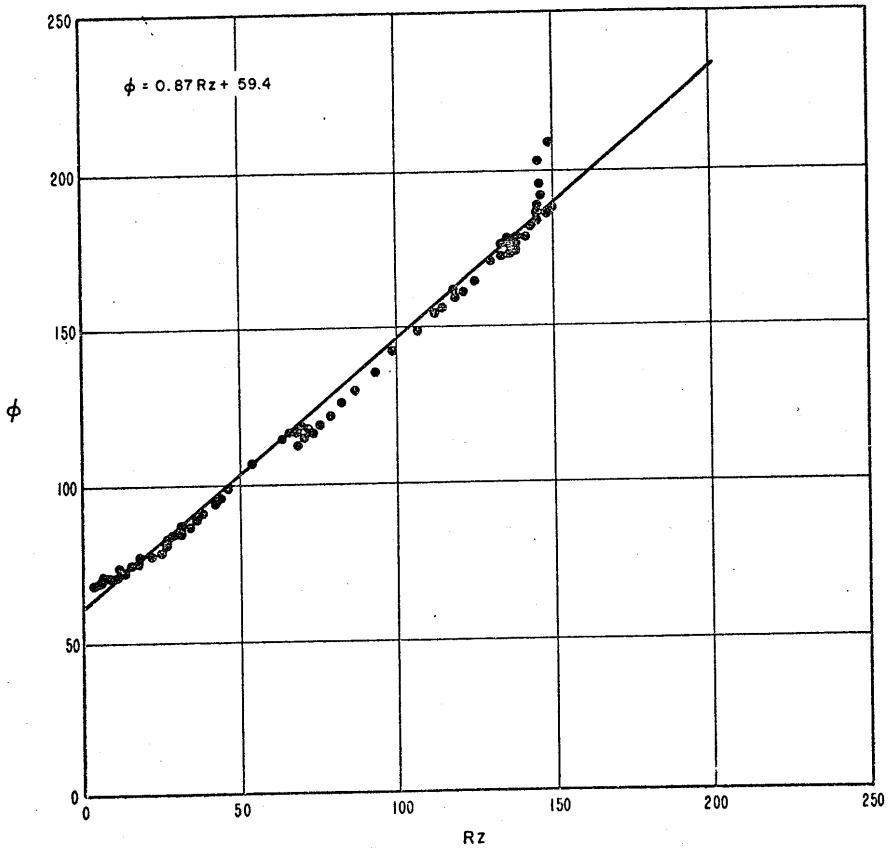

Figure 1.2 b

VARIATION OF OTTAWA 10.7cm FLUX (ϕ) WITH ZURICH SUNSPOT NUMBER (Rz)
(12 MONTH SMOOTHED MEANS, APR. 1954 - MAR. 1958)

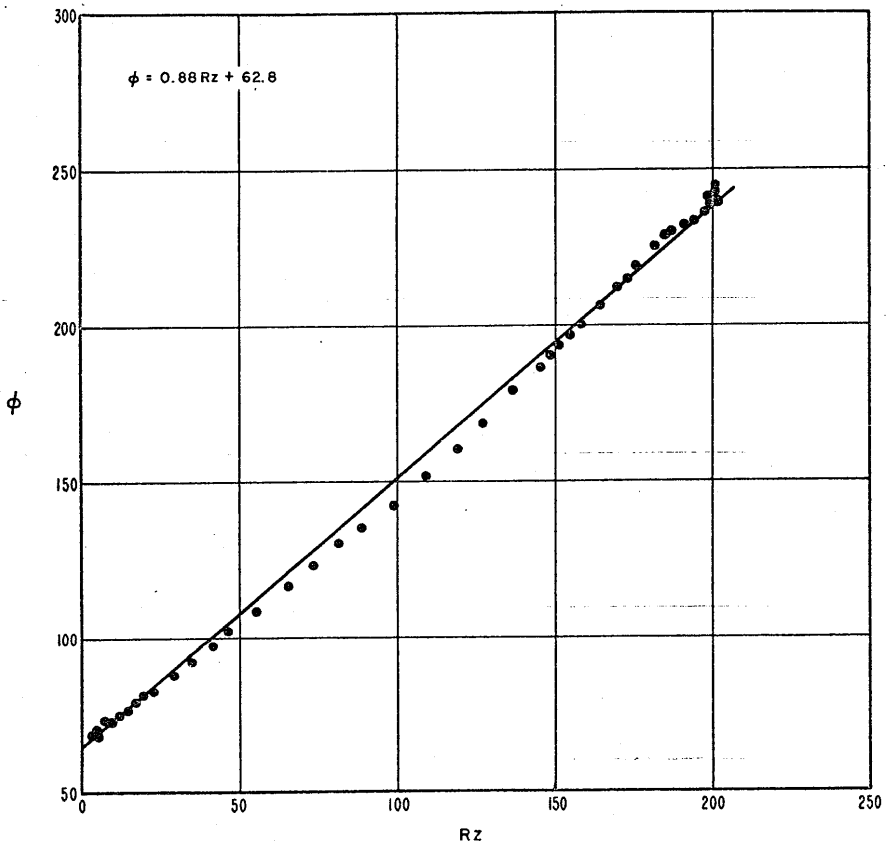

Figure 1.2c

VARIATION OF OTTAWA 10.7cm FLUX (ϕ) WITH ZURICH SUNSPOT NUMBER (Rz)
(12 MONTH SMOOTHED MEANS MAR. 1958 - DEC. 1962)

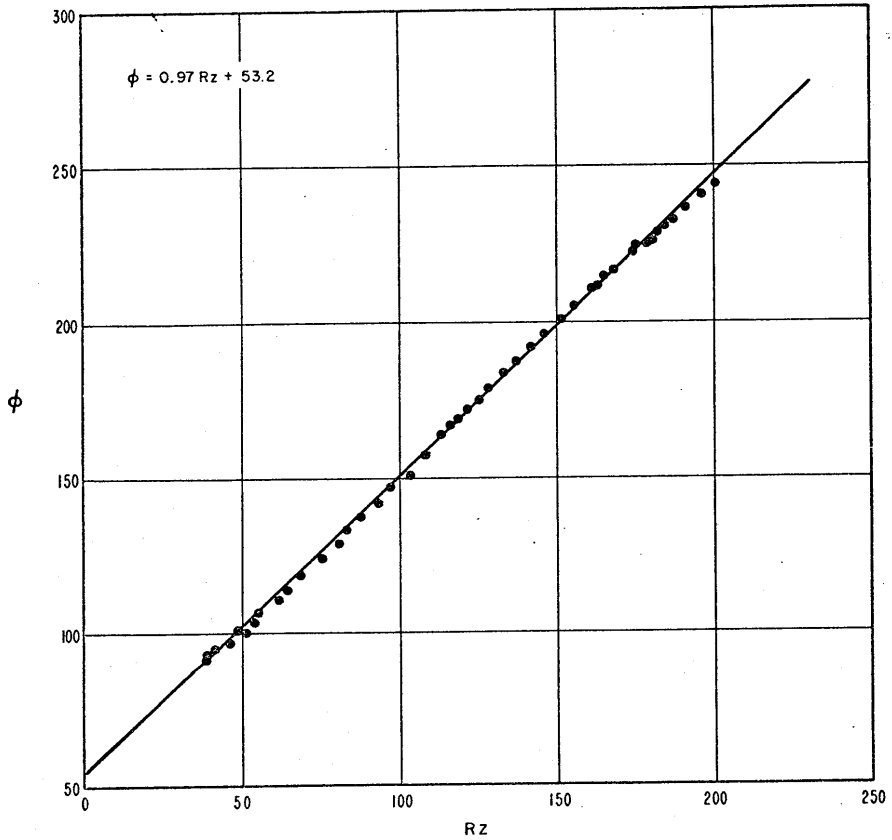

Figure 1.2 d

VARIATION OF IONOSPHERIC INDEX (IF2) WITH ZURICH SUNSPOT NUMBER (Rz)
(12 MONTH SMOOTHED MEANS, JAN. 1947 - DEC. 1962)

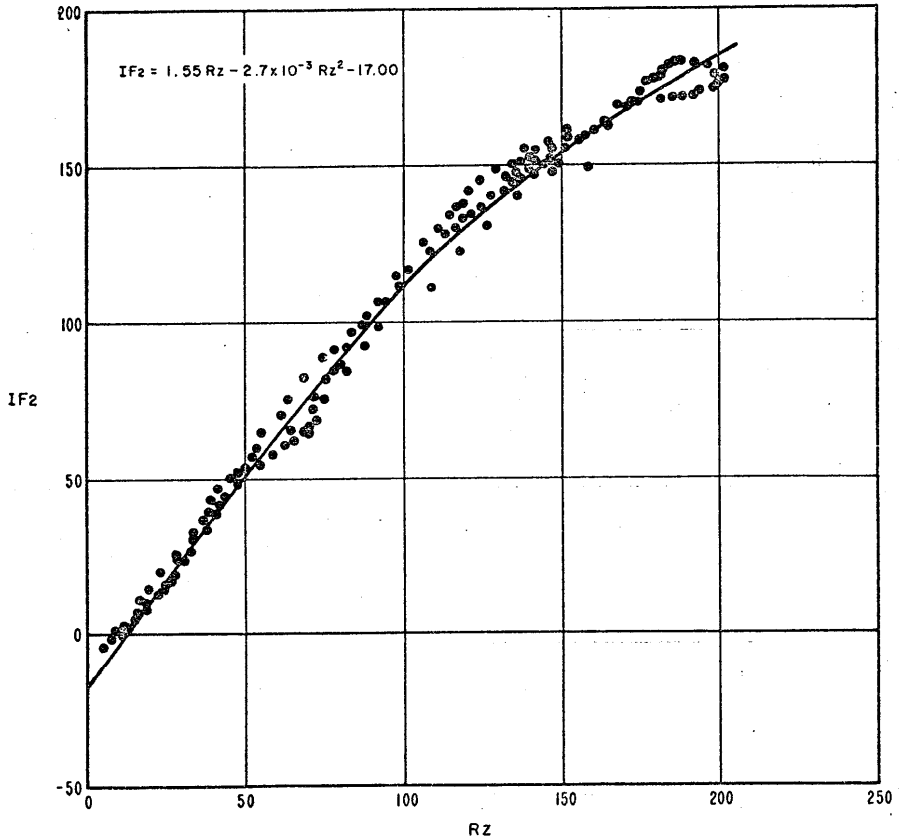

Figure 1.3 a

VARIATION OF IONOSPHERIC INDEX (IF2) WITH ZURICH SUNSPOT NUMBER (RZ)
(12 MONTH SMOOTHED MEANS, MAY 1947-APR. 1954)

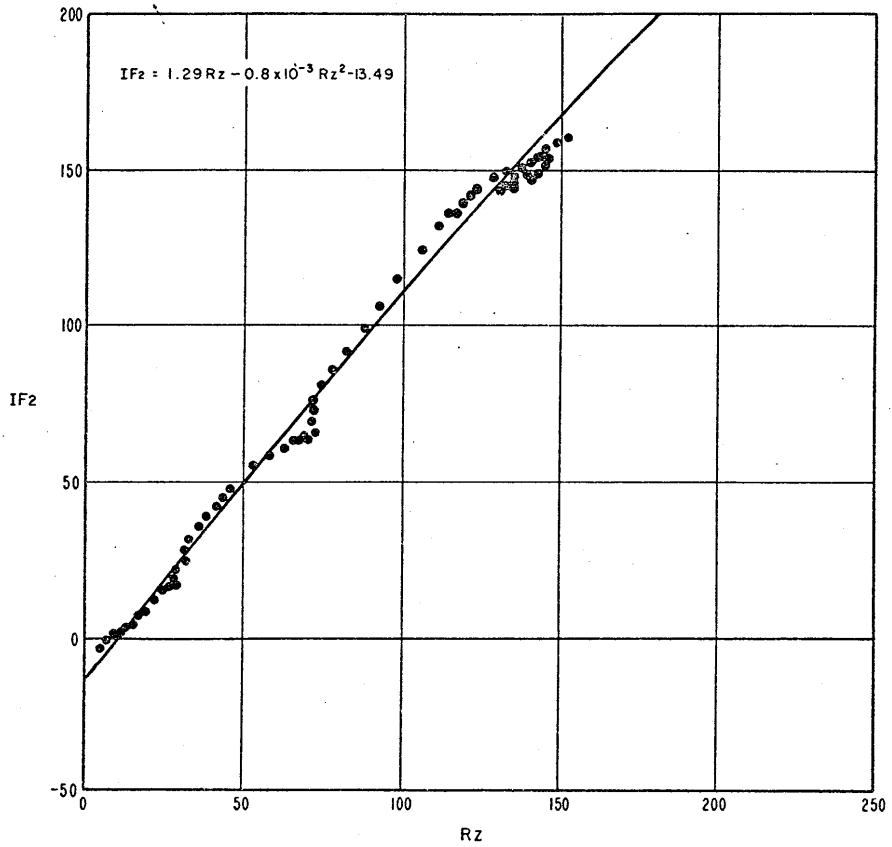

Figure 1.3 b

VARIATION OF IONOSPHERIC INDEX (IF2) WITH ZURICH SUNSPOT NUMBER (RZ)
(12 MONTH SMOOTHED MEANS, APR. 1954 - MAR. 1958)

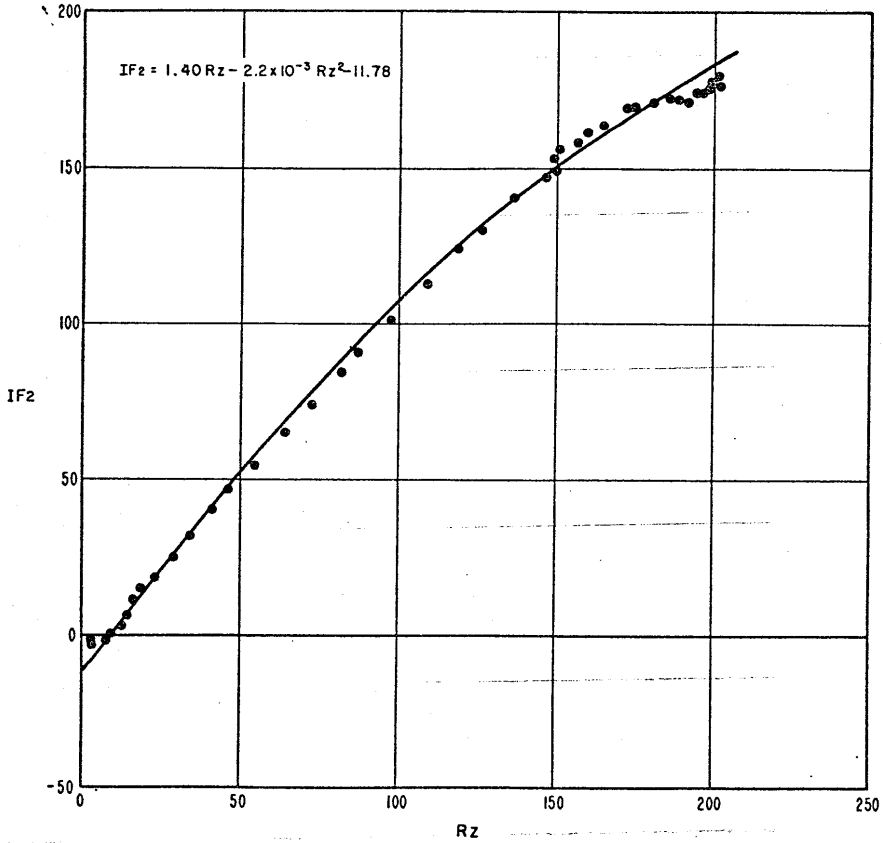

Figure 1.3 c

VARIATION OF IONOSPHERIC INDEX (IF2) WITH ZURICH SUNSPOT NUMBER (Rz)
(12 MONTH SMOOTHED MEANS, MAR. 1958 - DEC. 1962)

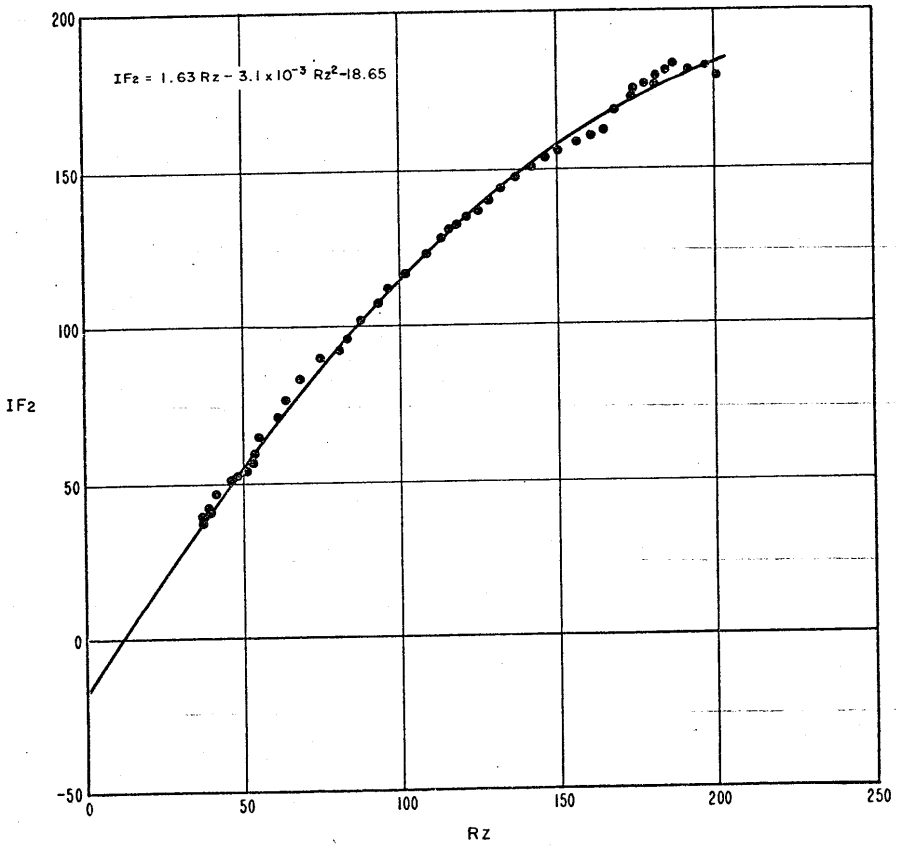

Figure 1.3 d

VARIATION OF IONOSPHERIC INDEX (IF2) WITH OTTAWA
10.7cm FLUX (ϕ)
(12 MONTH SMOOTHED MEANS, JAN. 1947 - MAY. 1963)

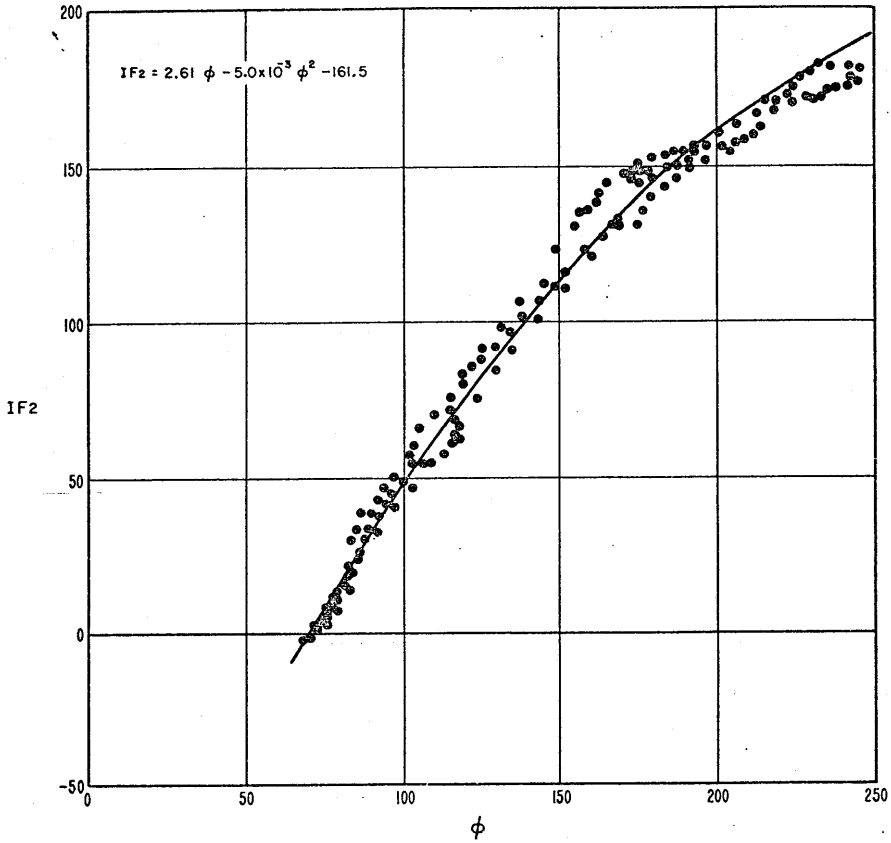

Figure 1.4 a

VARIATION OF IONOSPHERIC INDEX (IF2) WITH OTTAWA
10.7cm FLUX (ϕ)
(12 MONTH SMOOTHED MEANS, MAY. 1947 - APR. 1954)

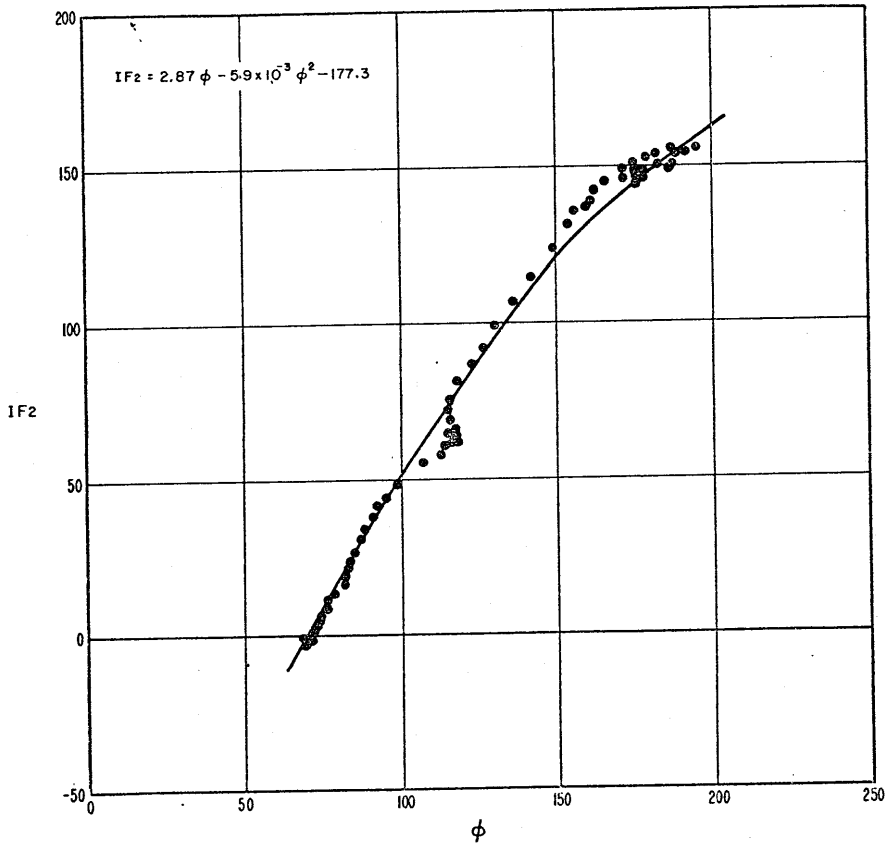

Figure 1.4 b

VARIATION OF IONOSPHERIC INDEX (IF2) WITH OTTAWA
10.7cm FLUX (ϕ)
(12 MONTH SMOOTHED MEANS, APR. 1954 - MAR. 1958)

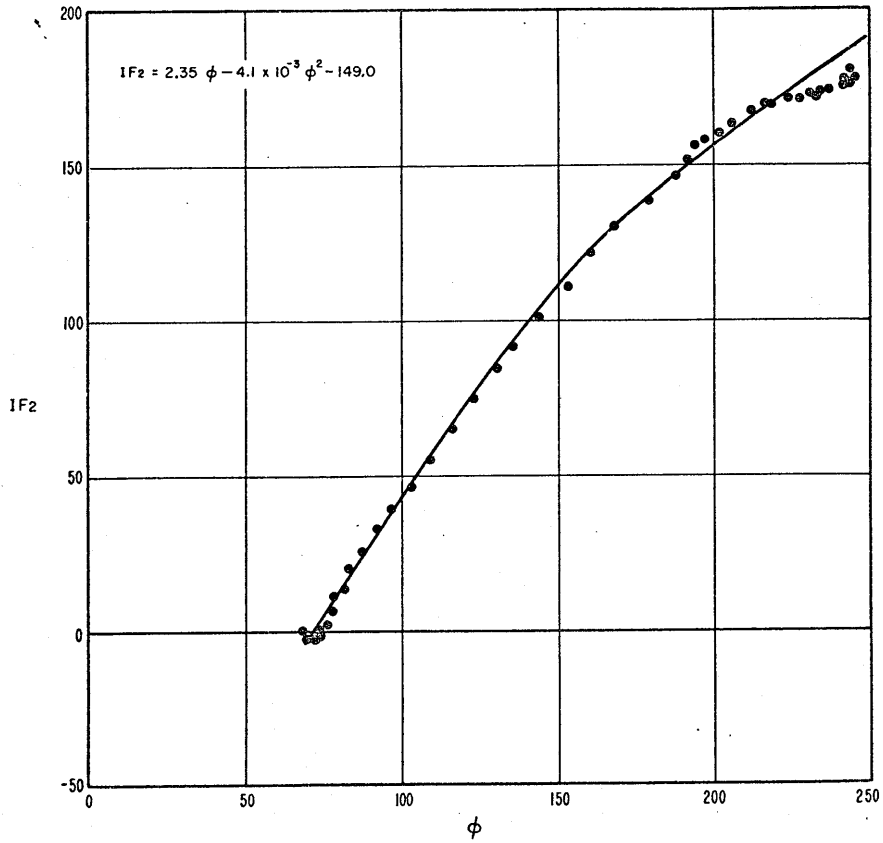

Figure 1.4 c

VARIATION OF IONOSPHERIC INDEX (IF2) WITH OTTAWA
10.7cm FLUX (ϕ)
(12 MONTH SMOOTHED MEANS, MAR. 1958 - MAY. 1963)

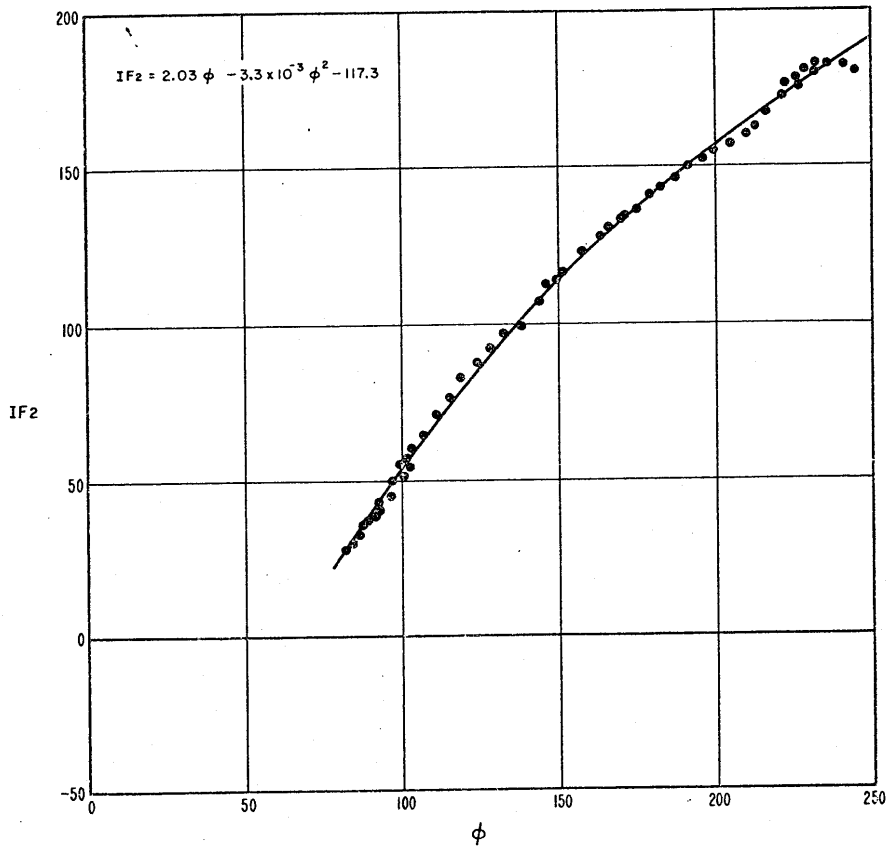

Figure 1.4 d

VARIATION OF OTTAWA 10.7cm FLUX (ϕ) WITH ZURICH SUNSPOT NUMBER (Rz)
(MONTHLY MEANS, FEB. 1947 – DEC. 1962)

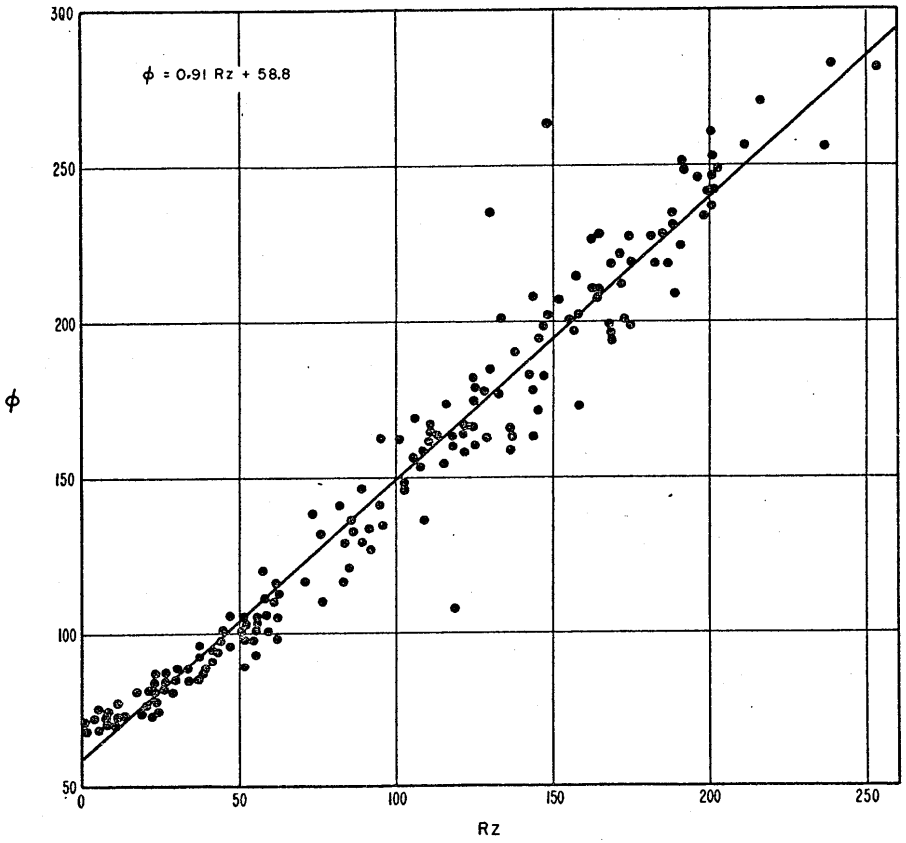

Figure 1.5a

VARIATION OF OTTAWA 10.7 cm FLUX (ϕ) WITH ZURICH SUNSPOT NUMBER (RZ)
(MONTHLY MEANS, FEB. 1947 - APR. 1954)

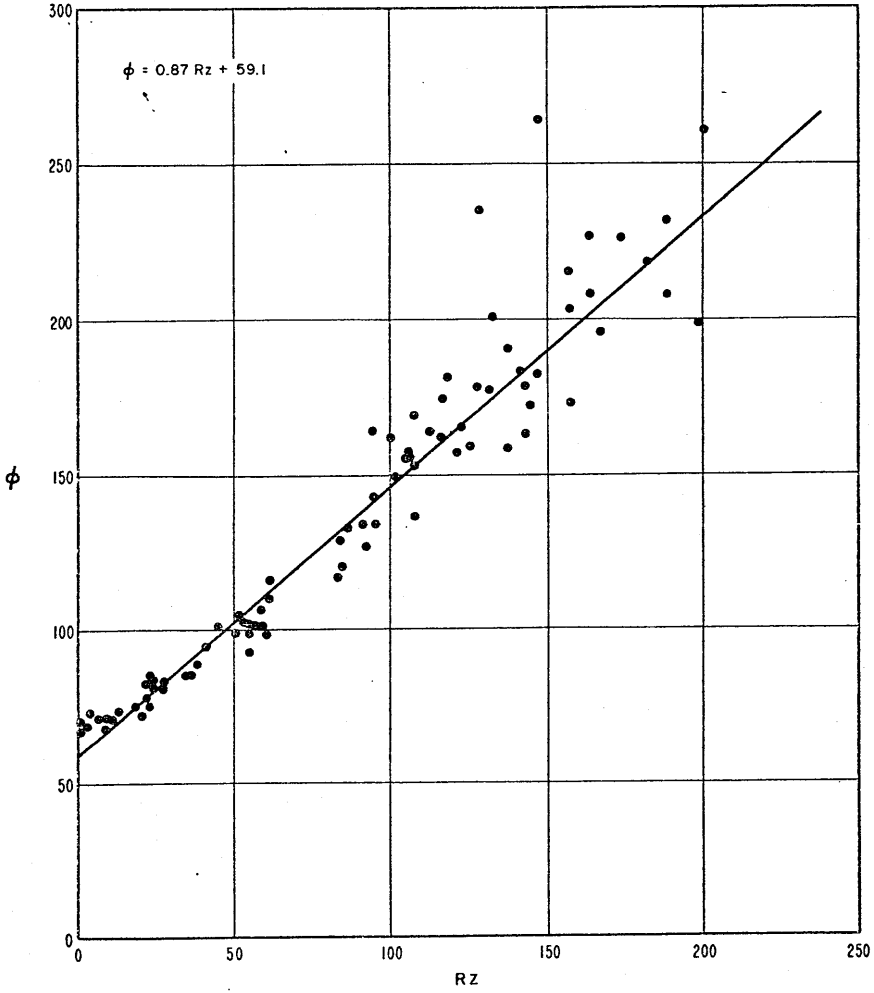

Figure 1.5 b

VARIATION OF OTTAWA 10.7 cm FLUX (ϕ) WITH ZURICH SUNSPOT NUMBER (Rz)
(MONTHLY MEANS, APR. 1954 – MAR. 1958)

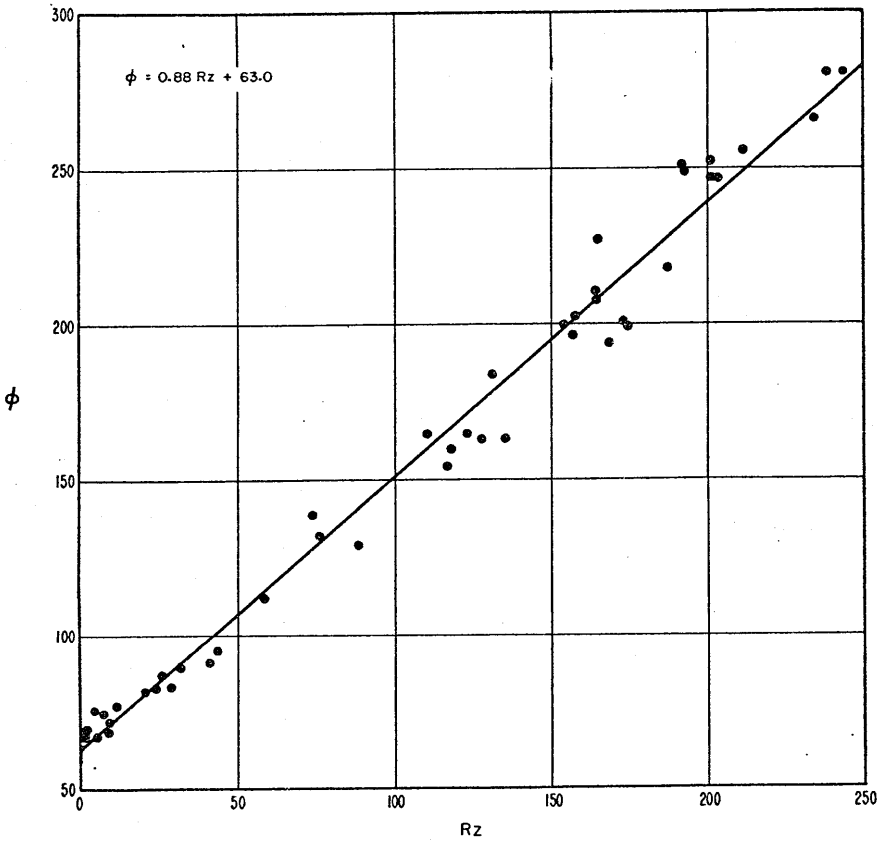

Figure 1.5 c

VARIATION OF OTTAWA 10.7 cm FLUX (ϕ) WITH ZURICH SUNSPOT NUMBER (RZ)
(MONTHLY MEANS, MAR. 1958 – DEC. 1962)

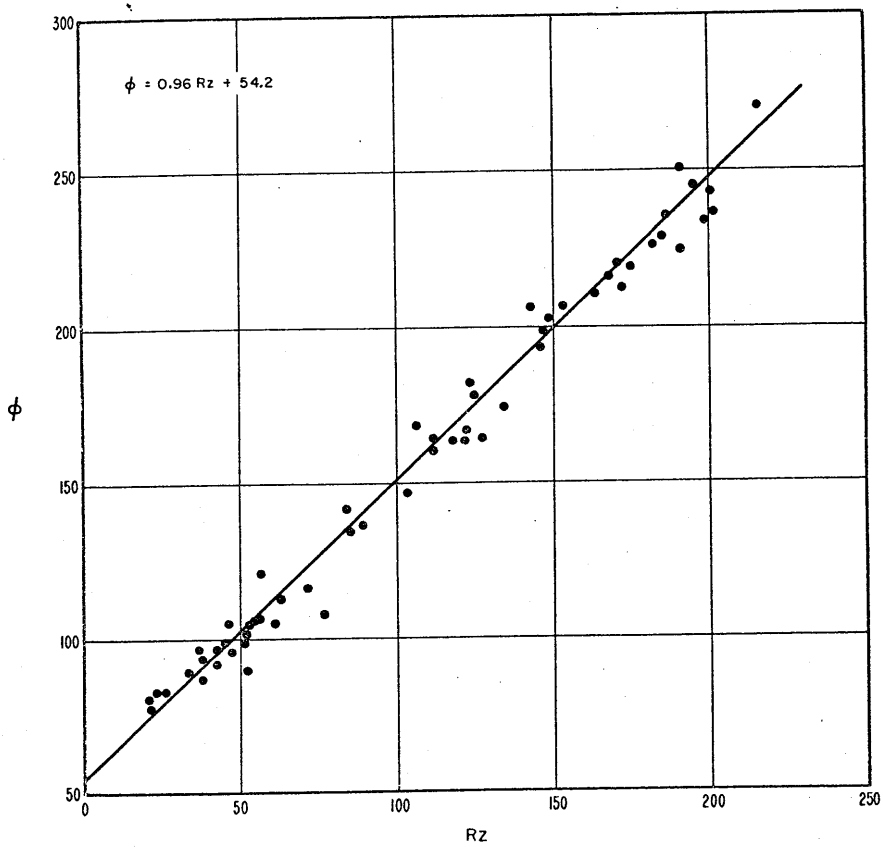

Figure 1.5 d

VARIATION OF IONOSPHERIC INDEX (IF2) WITH OTTAWA
10.7 cm FLUX (ϕ)
(MONTHLY VALUES, FEB. 1947 - MAY. 1963)

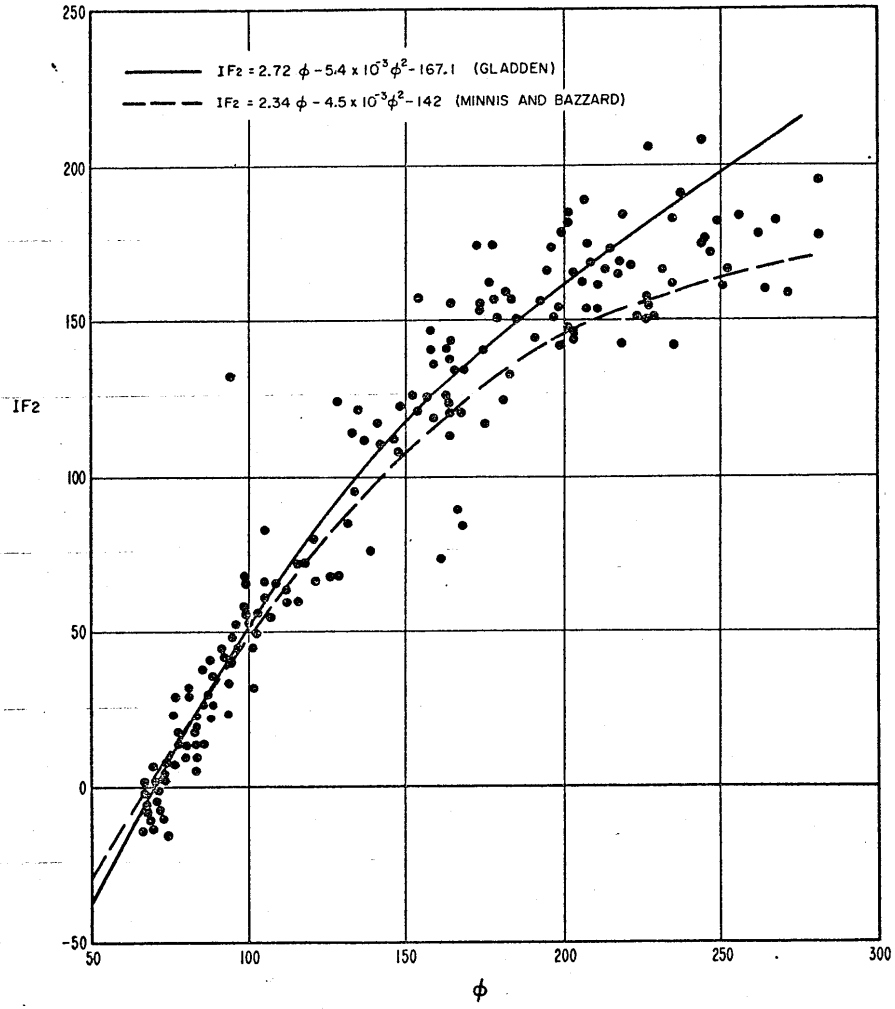

Figure 1.6a

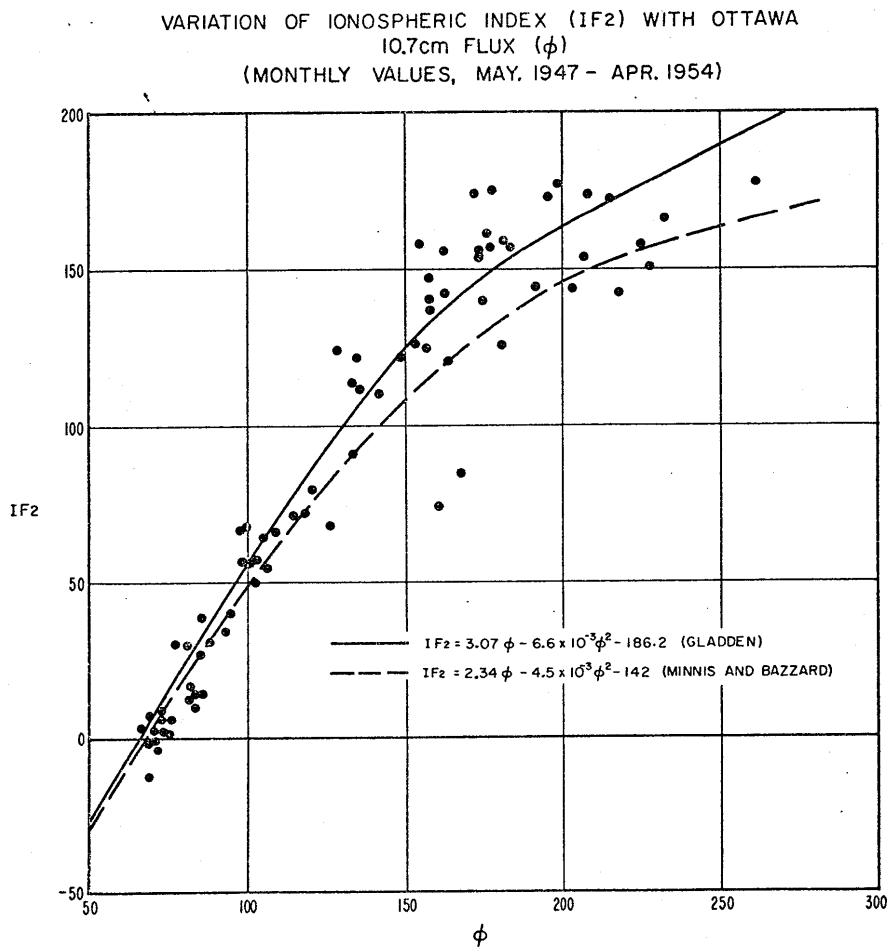
VARIATION OF IONOSPHERIC INDEX (IF2) WITH OTTAWA
10.7cm FLUX (ϕ)
(MONTHLY VALUES, MAY. 1947 - APR. 1954)
IF2
ϕ
200
150
100
50
0
-50
50
100
150
200
250
300
IF2 = 3.07 ϕ - 6.6 x 10⁻³ϕ² - 186.2 (GLADDEN)
IF2 = 2.34 ϕ - 4.5 x 10⁻³ϕ² - 142 (MINNIS AND BAZZARD)

Figure 1.6 b

VARIATION OF IONOSPHERIC INDEX (IF2) WITH OTTAWA 10.7cm FLUX (ϕ)
(MONTHLY VALUES, APR. 1954 - MAR. 1958)

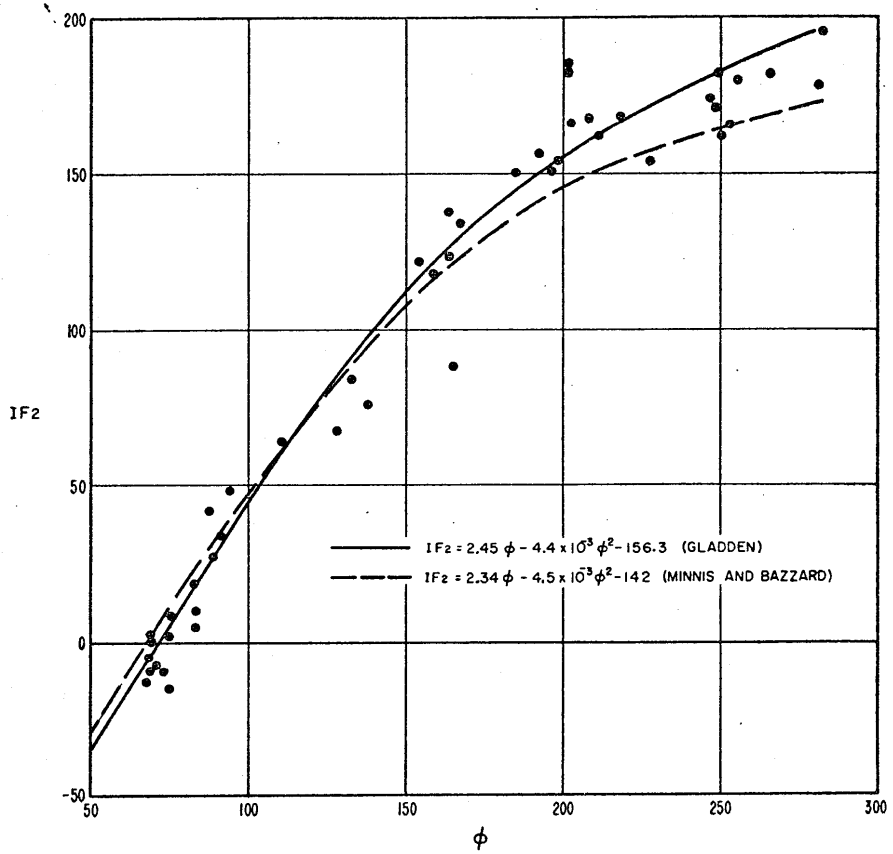

Figure 1.6 c

VARIATION OF IONOSPHERIC INDEX (IF2) WITH OTTAWA
10.7cm FLUX (ϕ)
(MONTHLY VALUES, MAR. 1958 - MAY. 1963)

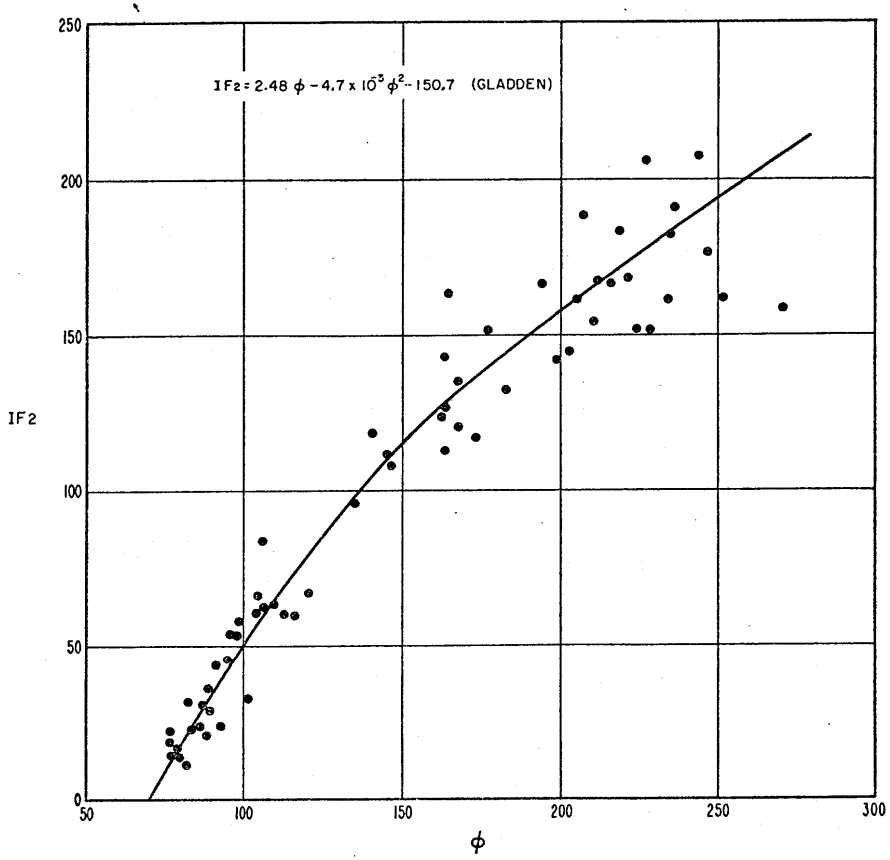

Figure 1.6 d

VARIATION OF IONOSPHERIC INDEX (IF2) WITH ZURICH SUNSPOT NUMBER (Rz)
(MONTHLY VALUES, JAN. 1947 – DEC. 1962)

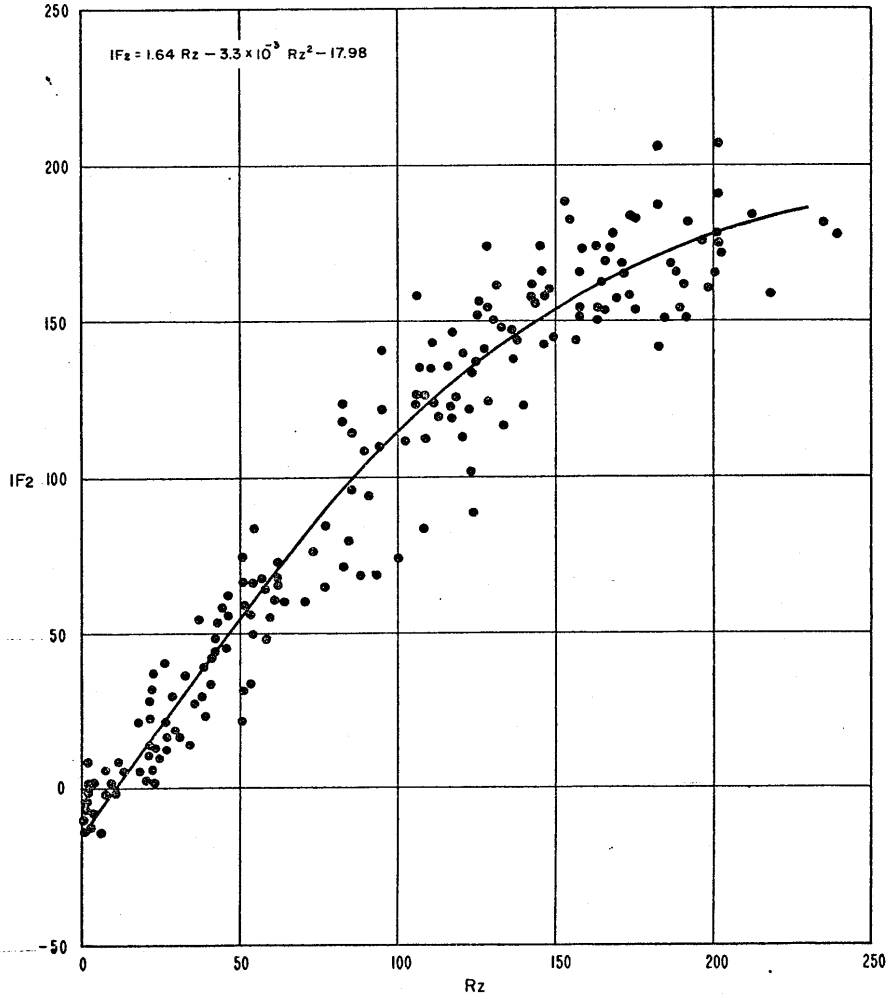

Figure 1.7a

VARIATION OF IONOSPHERIC INDEX (IF2) WITH ZURICH SUNSPOT NUMBER (Rz)
(MONTHLY VALUES, MAY 1947 – APRIL 1954)

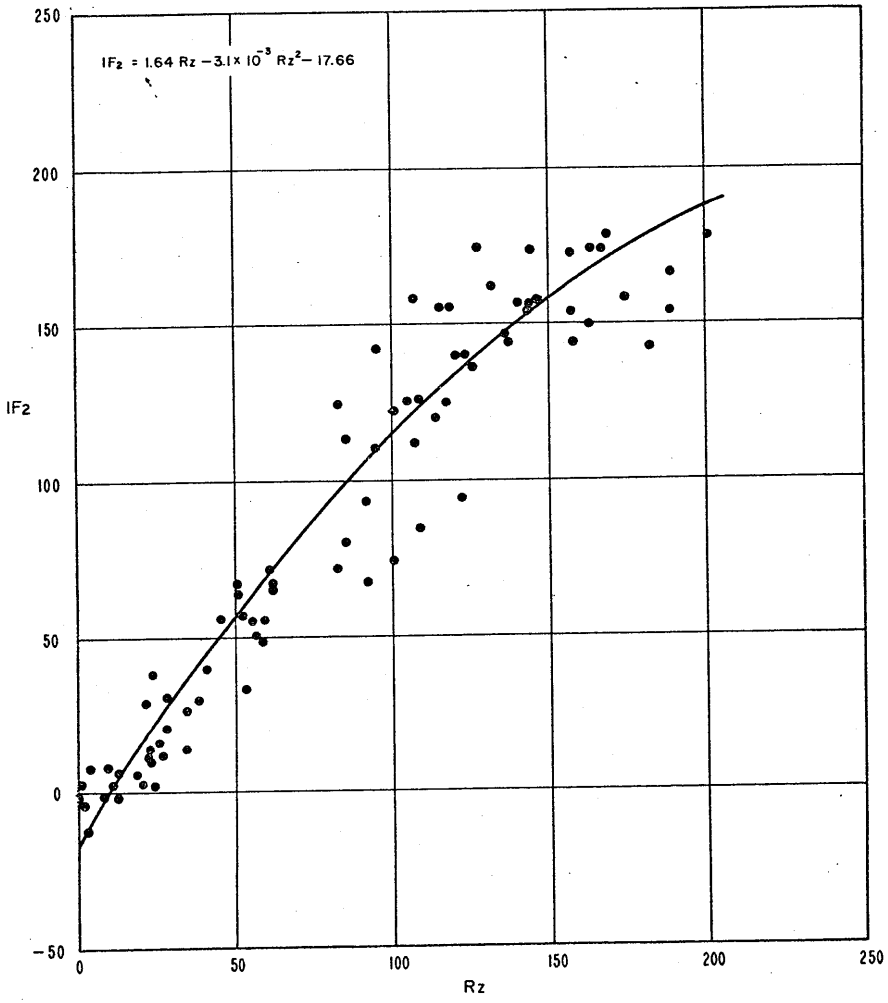

Figure 1.7 b

VARIATION OF IONOSPHERIC INDEX (IF2) WITH ZURICH SUNSPOT NUMBER (Rz)
(MONTHLY VALUES, APRIL 1954 – MARCH 1958)

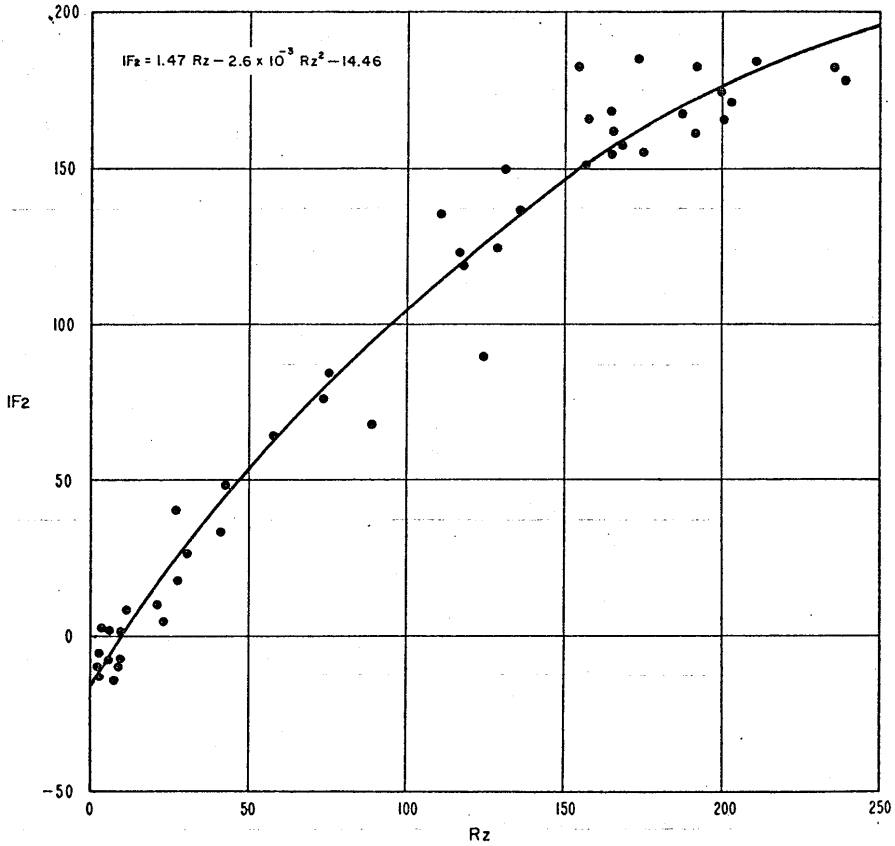

Figure 1.7c

VARIATION OF IONOSPHERIC INDEX (IF_2) WITH ZURICH SUNSPOT NUMBER (R_z)
(MONTHLY VALUES, MARCH 1958 - DEC. 1962)

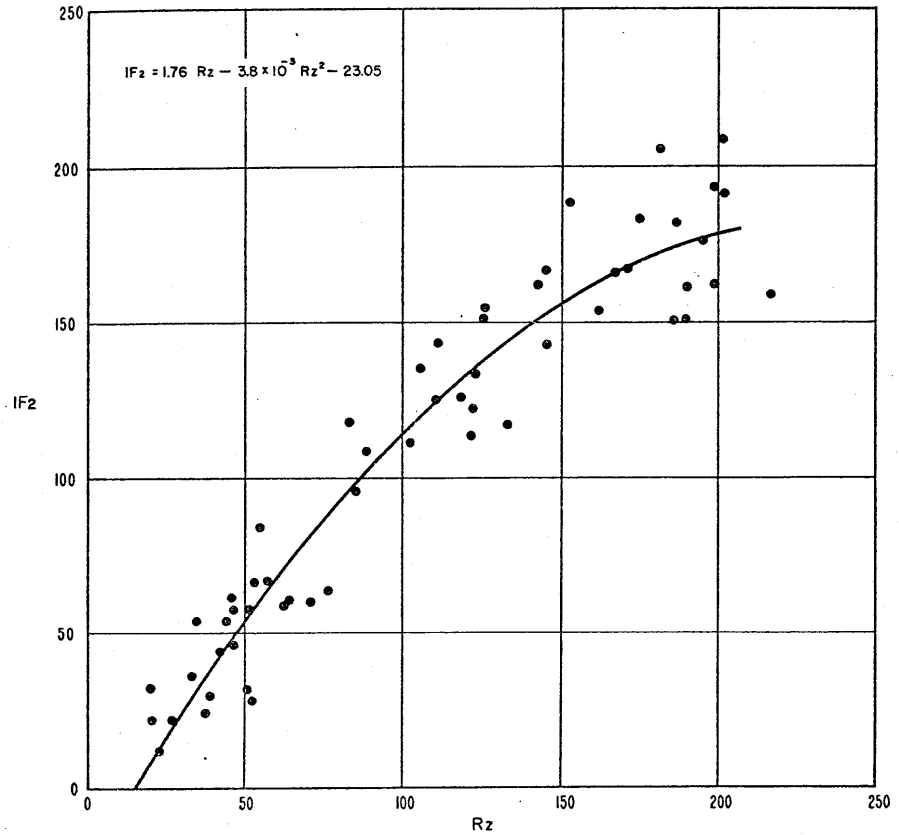

Figure 1.7 d

FREQUENCY VARIATION OF COEFFICIENT A IN EQUATION $\phi_{2800} = A\phi_f + B$
VALUES FROM TABLE 2.1

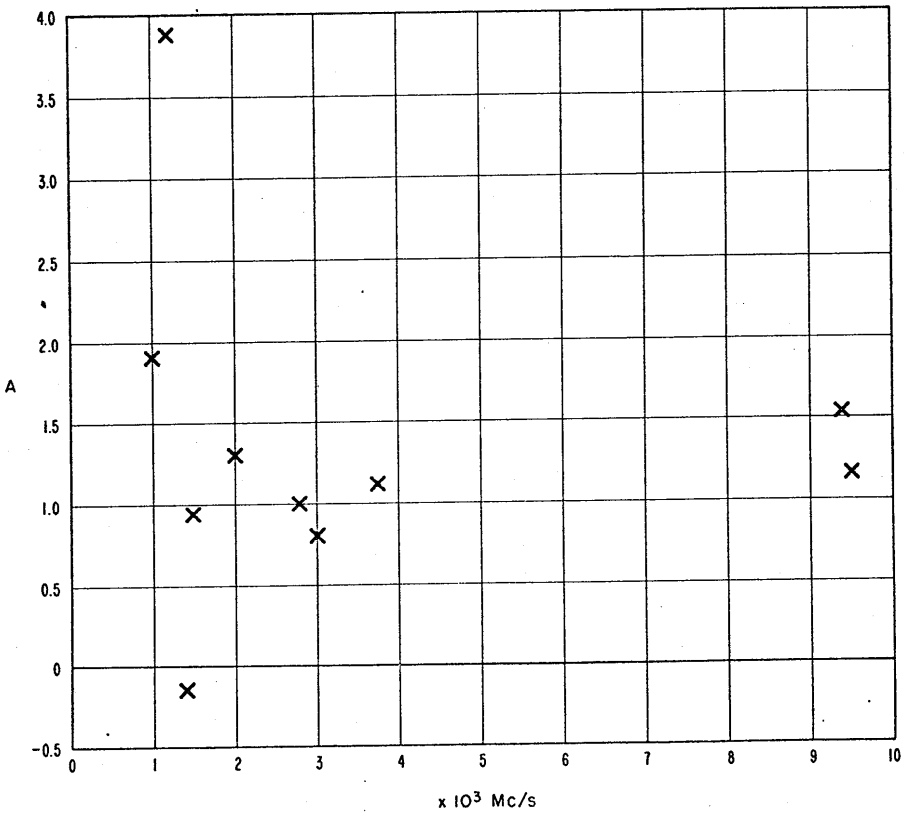

Figure 2.1

FREQUENCY VARIATION OF COEFFICIENT B IN EQUATION $\phi_{2800} = A\phi_f + B$
VALUES FROM TABLE 2.1

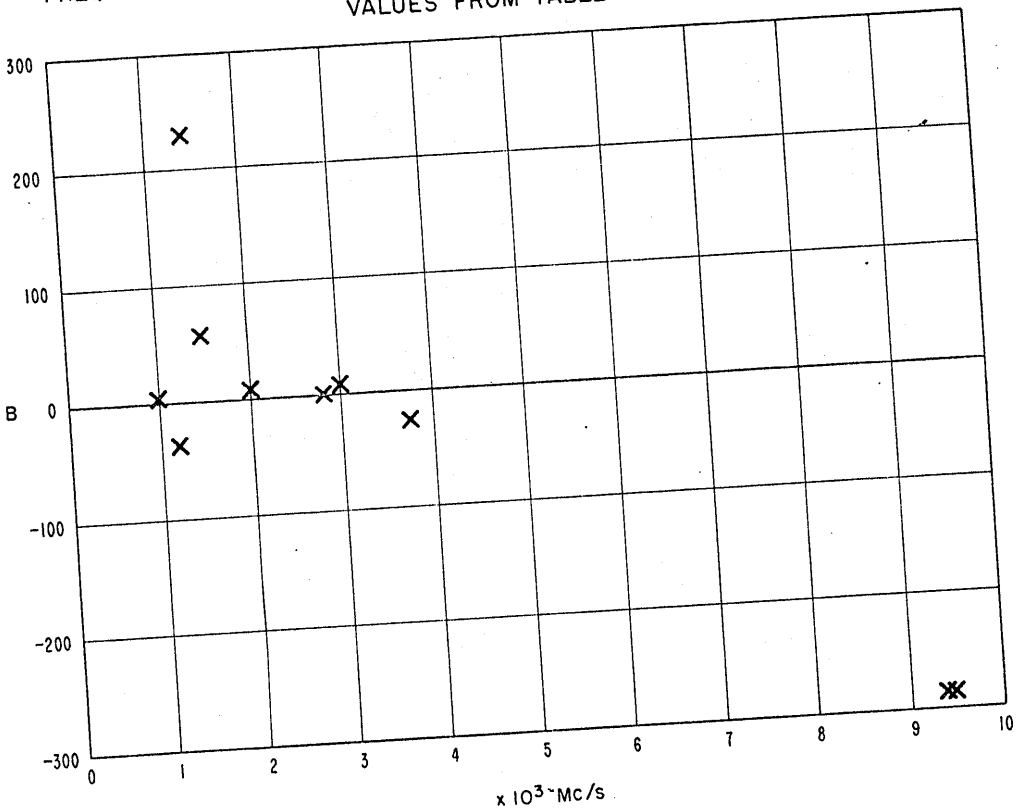

Figure 2.2

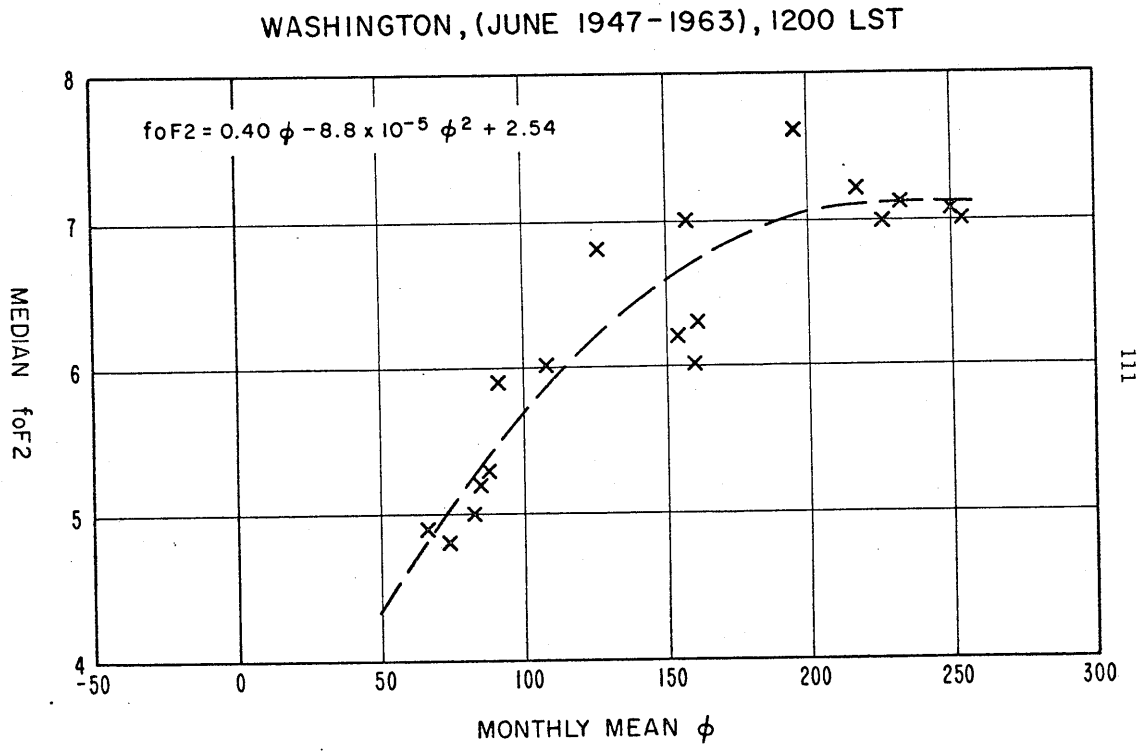
WASHINGTON, (JUNE 1947-1963), 1200 LST
foF2 = 0.40 φ -8.8 x 10⁻⁵ φ² + 2.54
MEDIAN foF2
MONTHLY MEAN φ
8
7
6
5
4
-50
0
50
100
150
200
250
300

Figure 3.1

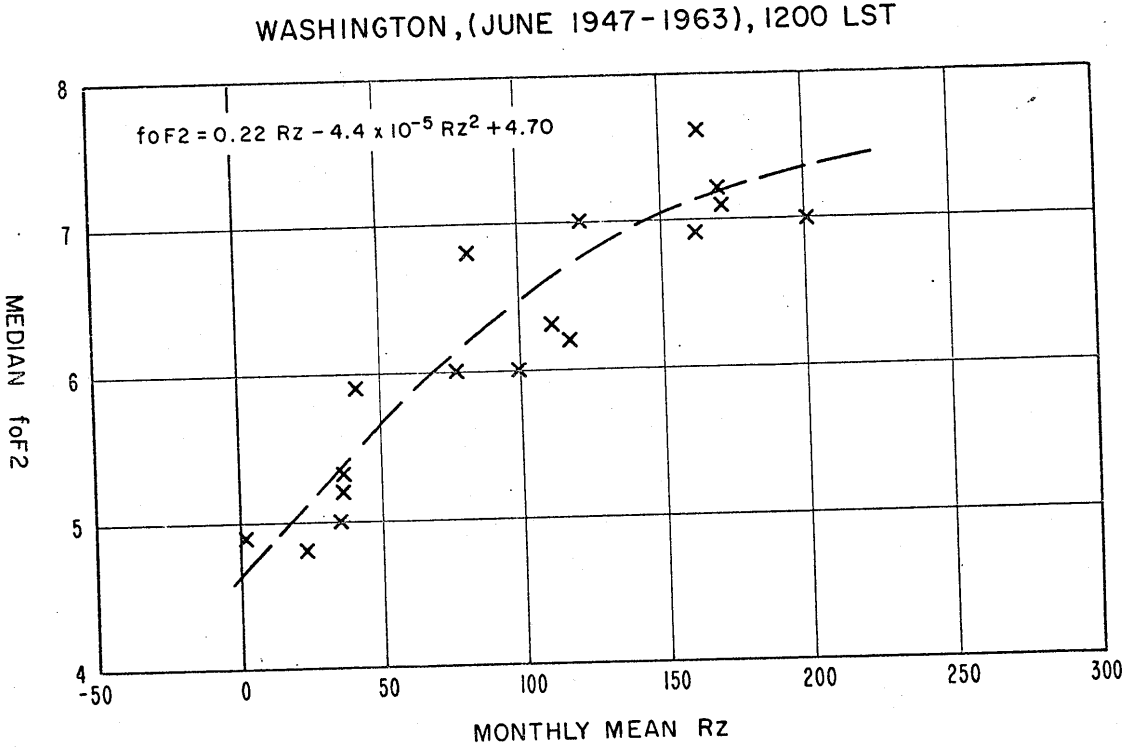
WASHINGTON, (JUNE 1947-1963), 1200 LST
foF2 = 0.22 Rz - 4.4 x 10⁻⁵ Rz² + 4.70
MEDIAN foF2
MONTHLY MEAN Rz
8
7
6
5
4
-50
0
50
100
150
200
250
300

Figure 3.2

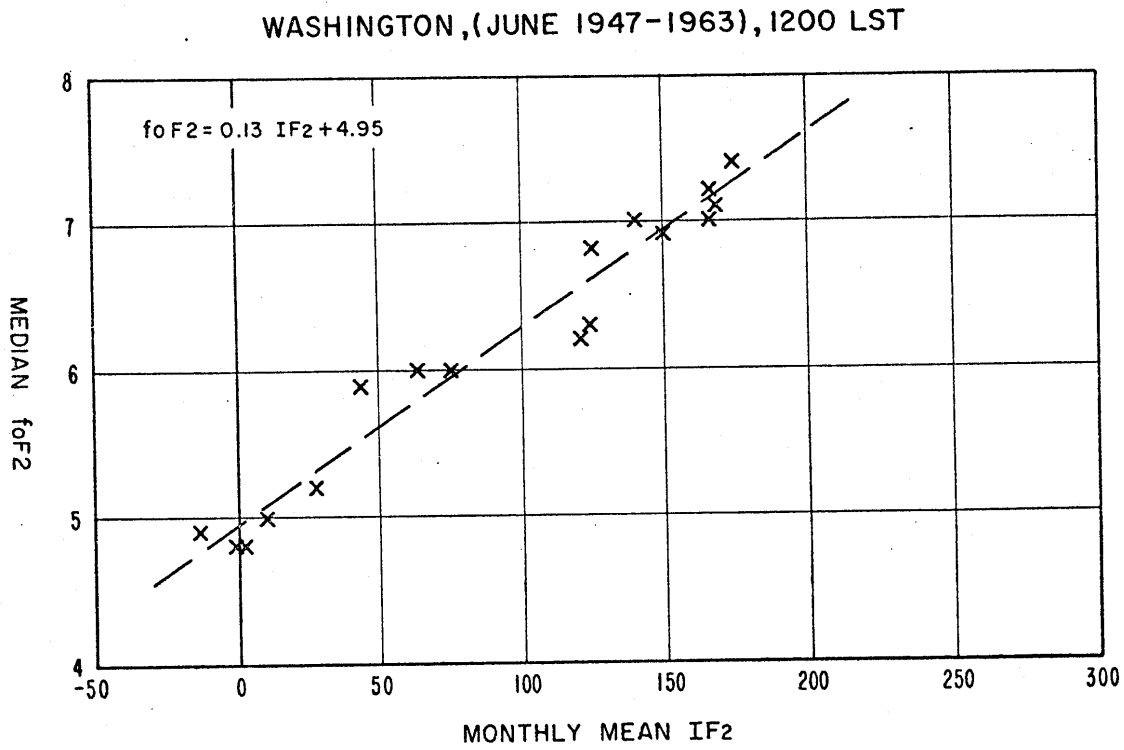
WASHINGTON, (JUNE 1947-1963), 1200 LST
foF2 = 0.13 IF2 + 4.95
MEDIAN foF2
MONTHLY MEAN IF2
8
7
6
5
4
-50
0
50
100
150
200
250
300

Figure 3.3