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5 GHZ SOURCE VARIABILITY AND THE GAIN OF THE 300-FOOT TELESCOPE

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GASFET AMP WAS
USED FOR THIS
SURVEY

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ABSTRACT

During the course of the MIT-Green Bank 5 GHz survey on the NRAO 300-ft. transit telescope, about 2400 observations were made of strong sources for the purpose of calibration. In this paper we analyze the gain curve of the 300-ft. telescope between -10° and +30°, including its time stability, and discuss the variability of the 123 calibrator sources that were observed.

I. INTRODUCTION

The MIT-Green Bank survey of 2.2 sr of sky between -0.5° and 19.5°, begun in 1979 using the NRAO* 300-ft. (91.4 m) transit telescope, is now nearly finished.

During the course of the survey repeated observations were made of 123 sources, ≳ 1 Jy, for calibration purposes. These observations were used to determine a pointing correction, and to calibrate the gain of the 300-ft. telescope. The calibrator observations over a period of several years also allow a study of source variability. In this paper we present an analyis of the gain curves of the 300-ft. telescope between -10° and +30°, and then present ∿ 2400 measurements of the fluxes of 123 calibrators.

II. OBSERVATIONS

Sources from Table 1 of Lawrence et al. (1983) were observed in July 1979, April-May 1980, June-July 1980, January-February 1981, August 1981, September-October 1981, December 1981-February 1982, and February 1983. All of the observations were made with the beam-switched "6-25 receiver" in the "Sterling mount". The two feeds are separated by ∿ 7.6' on the sky, and the nominal beam width (FWHP) of each is 2.8'. The center frequency was 4.775 GHz with a bandwidth of 580 MHz, and the integration time was 0.5 sec.

The telescope was driven in declination from South to North at six times the sidereal rate, 90"/sec. The feeds were rotated to an angle of -12° (in the sense N through E on the sky) so that a source passing through the midpoint between the two feeds goes through the half-power point of first one feed, then the other.

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III. ANALYSIS

Calibrator scans were analyzed by cross-correlation with a model beam as described by Lawrence et al. (1983). If either of the local minima of the cross-correlation did not fall within one integration period of the expected minimum position, based on the feed model, then the scan was thrown out. This occurred only rarely. The antenna temperature was calculated from the values at the two minima.

The sources used to calibrate the gain of the 300-ft. are most of those in Table 1 of Lawrence et al. (1983) for which fluxes are listed. Source temperatures from the cross-correlations were divided by the fluxes from the table to give gain values. Several models were fitted to the gain values as a function of declination. The best fit was obtained with the following polynomial:

$$G(K/Jy) = G_o \left[1 + \frac{G_2}{G_o} (\delta-\delta_o)^2 + \frac{G_4}{G_o} (\delta-\delta_o)^4\right] \qquad (1)$$

where $\delta_o = 38.43°$ is the declination of the zenith in Green Bank. Although this model gives a gain curve which is symmetric about the zenith, we have made observations only in the declination range $-10° < \delta < 30°$ and cannot comment on the accuracy of the model outside of this range.

The fit was made by reflecting the gain data points about the zenith declination, followed by a change of variables to $x_i = (\delta_i - \delta_o)/48.43$. Since $-1 < x_i < 1$, Legendre polynomials could be fit to the data. Legendre polynomials are approximately orthogonal over the x_i's and their coefficients are nearly independent. This process automatically forces the gain curve to be symmetric about δ_o, since the odd Legendre polynomials will vanish. The Legendre coefficients were then converted into the G_i's of equation (1). The results are presented in Table 1 and their time variations are shown in Fig. 1. Figure 2 is representative of the high quality of all fits. The values of G_o are significantly different for different times. The variations in $G_2/G_o = (-5.27 \pm 0.37) \times 10^{-4}$ and in $G_4/G_o = (7.7 \pm 1.9) \times 10^{-8}$ are insignificant. Thus the gain curve used in obtaining the fluxes in this paper is

$$G(K/Jy) = G_o\ (t)[1 - 5.7 \times 10^{-4}\ (\delta - 38.43°)^2 + 7.7 \times 10^{-8}\ (\delta - 38.43°)^4] \quad (2)$$

where $G_o(t)$ is given in Table 1.

The important result is that G_o changes significantly over time, but G_2/G_o and G_4/G_o do not. In other words, the shape of the gain curve is constant, but its amplitude changes.

The antenna temperatures of ∿ 2400 observations were converted into fluxes using equation (2). An editing algorithm eliminated measurements which were obviously in error, as follows: the mean flux <S>, and the standard deviation of the mean, σ_m, were calculated for each source. The most extreme flux, S_E, was thrown out if

$$|S_E - \langle S\rangle| > 3 \max(\sigma_m,\ 0.2\langle S\rangle). \quad (3)$$

where max(x,y) chooses the larger value of the two arguments. <S> and σ_m were recomputed, and the procedure iterated until all the measurements passed the test. Only about 25 observations (∿ 1%) were thrown out, so this is a mild

TABLE I. Gain curve coefficients as a function of time. The differences in G_o are significant. The higher order coefficients are taken as constants with values $\frac{G_2}{G_o} = (5.27 \pm 0.37) \times 10^{-4}$ and $\frac{G_4}{G_o} = (7.7 \pm 1.9) \times 10^{-8}$.

DATE	G_o	$\frac{G_2}{G_o}$	$\frac{G_4}{G_o}$
79.504	0.936	-4.86×10^{-4}	5.91×10^{-8}
80.375	1.06	-5.50	8.52
80.542	0.967	-5.22	7.86
81.125	0.943	-5.08	6.46
81.666	0.867	-5.25	7.64
81.792	0.872	-5.30	8.20
82.000	0.876	-5.03	6.36
82.375	0.855	-6.13	12.1
83.166	0.861	-5.06	6.04

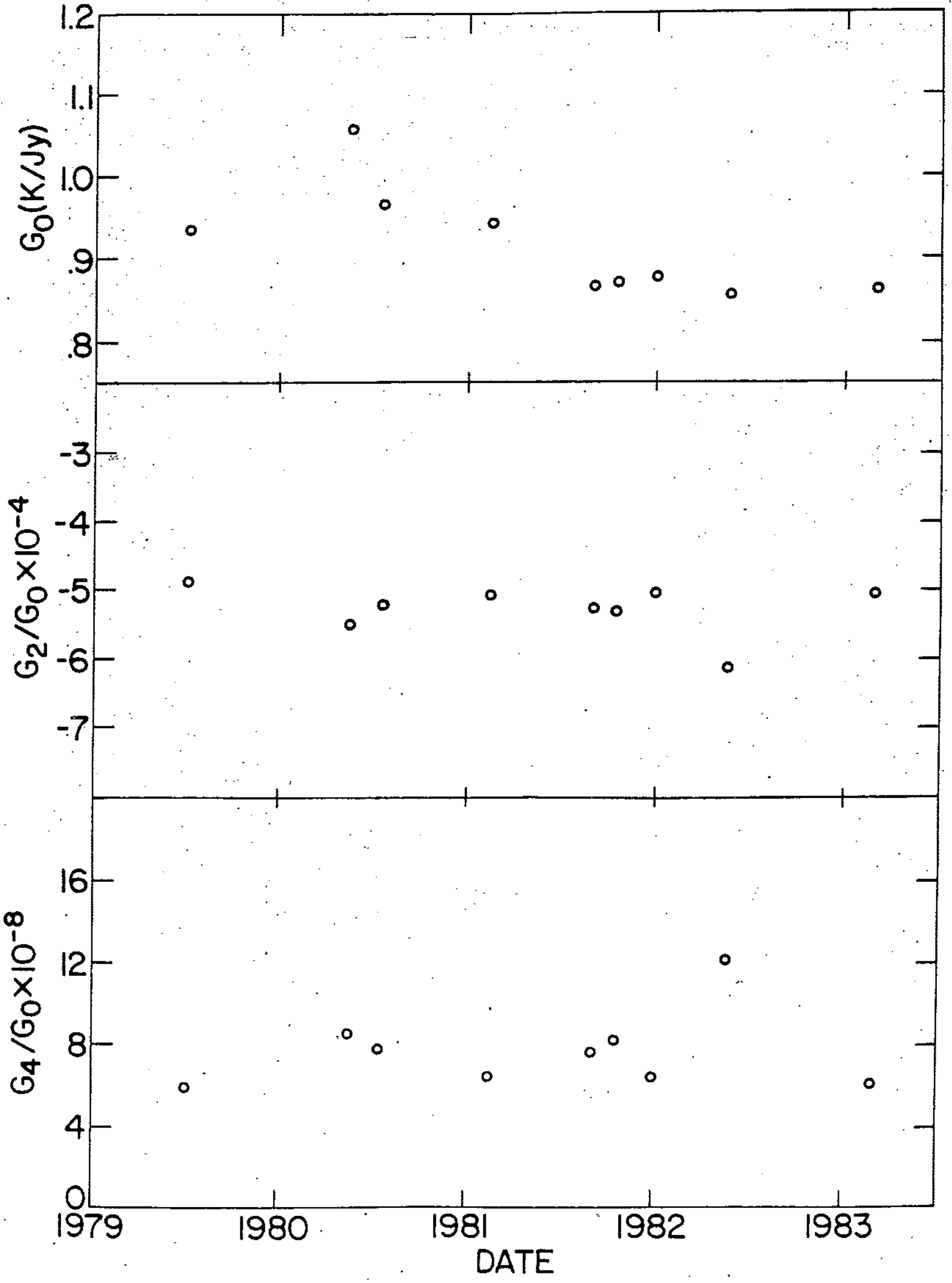

Figure 1. Gain coefficients as a function of time.

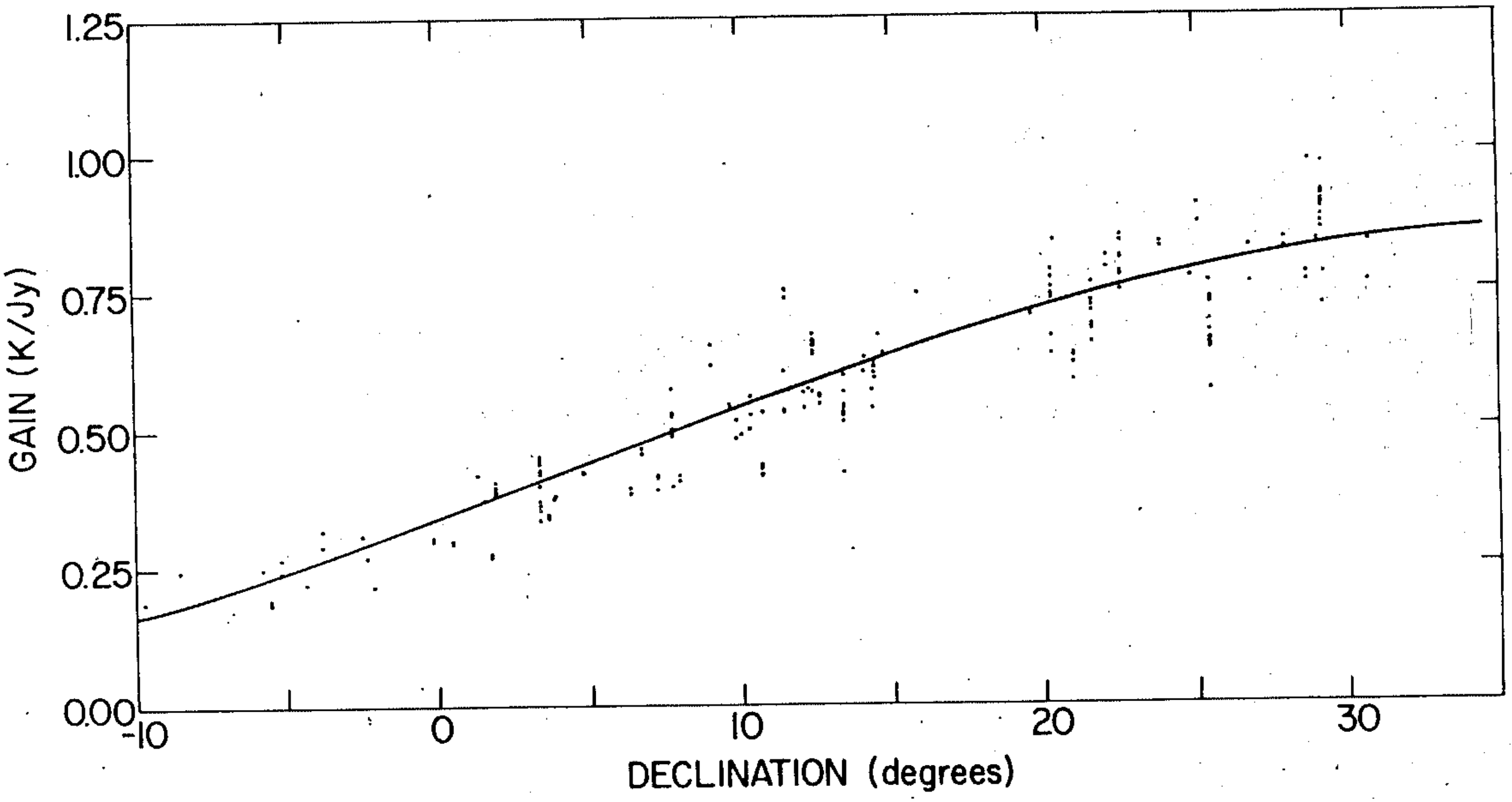

Figure 2. Gain curve fit for 1981.666 .

editing algorithm. The resulting fluxes and the corresponding dates of observation are shown in Table II. The uncertainty in a single measurement is declination dependent, but the measured dispersion for $-10° < \delta < 30°$ is 7.8% (Lawrence et al. 1983), as can be seen by examining measurements of a given source taken only a few days apart. The scatter is intrinsic to the 300-ft. telescope and the observing technique, as discussed by Lawrence et al. More accuracy requires redundancy and averaging.

A linear fit of the fluxes in the form

$$S(\text{year}) = A + B(\text{year}-1980) \tag{4}$$

was carried out for the individual fluxes of the sources in Table II. If a source had a flux which varied linearly with time then the coefficient A would represent the 1980 flux of the source and B would be its variability in Jy/year. The purpose of doing this fit is not to actually model the sources as varying linearly, which would more often than not be incorrect, but rather to provide the coefficient B as an indicator of variability. A source with a constant flux should have B=0.

A summary of the measurements is presented in Table III. Listed in the table are: the 1979 catalog flux, F, if a reliable one existed; the mean of our measured fluxes, $<S>$; the standard deviation, σ_S; the number of measurements, N; the coefficients A and B as described above; and the percentage deviation in the measurements $100\sigma_S/<S>$. The reduced χ^2 of the linear fit was computed and $100\chi/<S>$ is listed in the table indicating the goodness of linear fit.

The fluxes of four sources are shown in Figure 3. Each is a clear example of one type of variability. 3C454.3, a well-known variable, increased steadily throughout our observations. Note in Table III that the variations about a linear fit are almost three times smaller than variations about the mean, 8.73 compared to 23.37. 3C226 remained constant, with B=0 in Table III, OT081, a quasar, was roughly constant until the fall of 1981, then decreased suddenly and significantly. 0736+017 is variable, but not linearly.

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REFERENCE

Lawrence, C. R., Bennett, C. L., Garcia-Barreto, J. A., Greenfield, P. E., and Burke, B. F. (1983). Astrophys. J. Suppl. 51, 67.

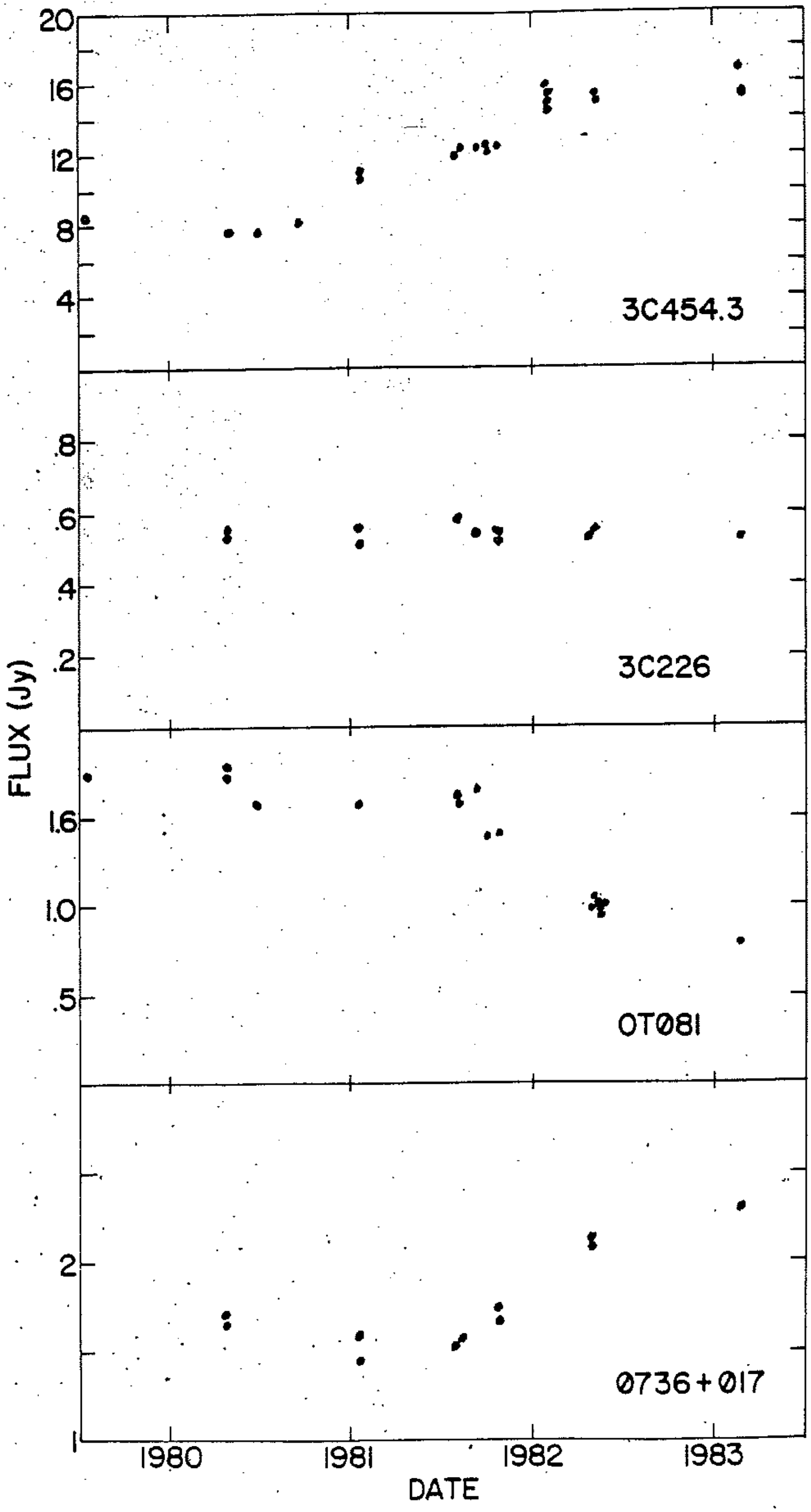

Figure 3. Fluxes of four sources. 3C454.3 is a well known variable. 3C226 remained constant. The flux of OT081 decreased suddenly. 0736+017

TABLE II. Dates and observed fluxes of 123 calibrator sources.

3C2

4	26	80	1.437
4	27	80	1.471
6	27	80	1.441
1	18	81	1.473
1	19	81	1.448
10	25	81	1.314
1	28	82	1.586
4	26	82	1.382

0007+171

4	26	80	0.962
4	27	80	0.977
6	27	80	0.930
1	18	81	0.944
1	19	81	0.964
10	25	81	0.987
1	28	82	0.895

0019-000

4	26	80	1.154
4	27	80	1.113
6	27	80	1.064
1	18	81	1.120
1	19	81	1.134
1	21	81	0.921
8	7	81	1.008
10	24	81	1.080
10	25	81	1.029
1	28	82	1.109
4	26	82	1.052

3C12

4	26	80	0.843
4	27	80	0.852
6	27	80	0.823
1	18	81	0.912
1	19	81	0.867
1	21	81	0.767
8	7	81	0.806
10	24	81	0.817
10	25	81	0.797
1	28	82	0.849
4	26	82	0.844

3C17

4	26	80	2.553
4	27	80	2.545
6	27	80	2.460
1	18	81	2.759
1	19	81	2.646
1	21	81	2.225
8	7	81	2.528
10	24	81	2.504
10	25	81	2.507
1	28	82	2.677
4	26	82	2.503

0048-097

4	26	80	1.347
4	27	80	1.337
6	27	80	1.490
1	18	81	1.412
1	19	81	1.434
1	21	81	1.212
8	7	81	1.501
10	24	81	0.977
10	25	81	0.947
1	28	82	1.216
4	26	82	1.678

3C26

4	26	80	0.537
4	27	80	0.578
6	27	80	0.571
1	18	81	0.666
1	19	81	0.565
1	21	81	0.470
8	7	81	0.679
10	24	81	0.554
10	25	81	0.558
1	28	82	0.604
4	26	82	0.600

0056-001

4	26	80	1.381
4	27	80	1.383
1	18	81	1.524
1	19	81	1.359
1	21	81	1.181
8	6	81	1.321
10	24	81	1.305
10	25	81	1.320
1	28	82	1.310
4	26	82	1.281

0106+013

4	26	80	4.328
4	27	80	4.367
1	18	81	4.360
1	19	81	4.428
1	21	81	3.837
8	6	81	4.208
10	24	81	4.224
10	25	81	4.390
1	28	82	4.382
4	26	82	4.239
2	17	83	4.187

0112-017

4	26	80	1.008
4	27	80	0.970
1	18	81	1.073
1	19	81	1.146
1	21	81	0.970
8	6	81	1.194
10	24	81	1.145
10	25	81	1.155
1	28	82	1.234
4	26	82	1.250
5	5	82	1.194
5	7	82	1.227
5	8	82	1.327
5	9	82	1.128
5	10	82	1.208
5	11	82	1.081
5	12	82	1.150
5	15	82	1.164
5	16	82	1.157
2	17	83	1.335
2	24	83	1.420

3C42

4	26	80	0.938
4	27	80	0.942
1	18	81	0.836
1	19	81	0.978
1	21	81	0.873
8	6	81	0.999
10	24	81	0.961
10	25	81	0.993
1	28	82	0.984
4	26	82	0.941
5	5	82	0.986
5	7	82	0.955
5	8	82	0.977
5	9	82	0.962
5	10	82	0.937
5	11	82	0.970
5	12	82	0.911
5	14	82	0.946
5	15	82	0.945
5	16	82	0.921
2	24	83	1.059

3C45

4	26	80	0.849
4	27	80	0.656
1	18	81	0.736
1	21	81	0.656
8	6	81	0.881
10	24	81	0.731
10	25	81	0.764
1	28	82	0.757
4	26	82	0.986
5	5	82	0.728
5	7	82	0.795
5	8	82	0.733
5	9	82	0.664
5	10	82	0.676
5	11	82	0.668
5	12	82	0.745
5	14	82	0.698
5	15	82	0.759
5	16	82	0.688
2	24	83	0.784

3C55

4	26	80	0.645
4	27	80	0.638
1	18	81	0.613
1	21	81	0.611
8	6	81	0.667
10	24	81	0.645
10	25	81	0.665
1	28	82	0.661
4	26	82	0.666
5	5	82	0.667
5	7	82	0.691
5	8	82	0.698
5	9	82	0.419
5	10	82	0.630
5	11	82	0.651
5	12	82	0.653
5	14	82	0.670
5	15	82	0.655
5	16	82	0.670
2	24	83	0.719

NRAO91

1	18	81	3.332
1	21	81	3.142
8	6	81	3.442
10	25	81	3.629
10	26	81	3.684
1	28	82	3.497
5	5	82	3.311
5	7	82	3.327
5	8	82	3.602
5	10	82	3.054
5	11	82	3.194
5	12	82	3.402
5	14	82	3.524
5	15	82	3.454
5	16	82	3.509
2	24	83	3.478

3C63

4	26	80	0.716
4	27	80	0.868
1	18	81	0.704
1	21	81	0.719
8	6	81	0.806
10	25	81	0.819
10	26	81	0.826
1	28	82	0.859
4	26	82	0.842
5	5	82	0.818
5	7	82	0.867
5	8	82	0.818
5	10	82	0.715
5	11	82	0.756
5	12	82	0.749
5	14	82	0.742
5	15	82	0.811
5	16	82	0.735
2	17	83	0.788
2	24	83	0.870

0229+132

1	18	81	2.228
1	21	81	1.946
8	6	81	2.121
10	25	81	2.088
10	26	81	1.988
1	28	82	1.932
5	8	82	1.937
5	10	82	1.872
5	11	82	2.074
5	12	82	2.015
5	14	82	1.922
5	15	82	2.107
5	16	82	2.003
2	17	83	2.004
2	24	83	2.095

0234+285

1	21	81	2.385
8	6	81	2.475
10	25	81	2.578
10	26	81	2.539
1	28	82	2.572
4	26	82	2.862
5	5	82	2.511
5	7	82	2.708
5	8	82	2.858
5	10	82	2.631
5	11	82	2.212
5	12	82	2.701
5	14	82	2.871
5	15	82	2.802
5	16	82	2.671
2	17	83	2.941
2	24	83	3.140

3C79

4	26	80	1.279
4	27	80	0.871
6	23	80	1.370
1	18	81	1.492
1	21	81	1.247
10	25	81	1.386
10	26	81	1.355
1	28	82	1.383
4	26	82	1.387
2	17	83	1.324
2	24	83	1.430

CTA21

1	21	81	2.828
8	6	81	3.188
10	25	81	3.089
10	26	81	2.761
1	28	82	2.917
4	26	82	3.230
5	7	82	5.052
5	8	82	2.726
5	16	82	4.621
2	17	83	2.966
2	24	83	3.136

0319+121

4	26	80	1.159
4	27	80	1.071
6	23	80	1.076
1	18	81	1.041
1	21	81	0.985
8	6	81	1.074
10	25	81	1.024
10	26	81	1.084
1	28	82	0.977
4	26	82	1.034
5	5	82	0.994
5	16	82	1.221
2	17	83	0.926
2	24	83	0.993

3C89

4	26	80	0.751
4	27	80	0.766
6	23	80	0.756
1	18	81	0.783
1	21	81	0.659
10	25	81	0.697
10	26	81	0.678
1	28	82	0.719
4	26	82	0.730
5	5	82	0.727
5	7	82	0.733
5	8	82	0.701
5	9	82	0.547
5	10	82	0.629
5	11	82	0.639
5	12	82	0.730
5	14	82	0.616
5	15	82	0.730
5	16	82	0.720
2	17	83	0.628
2	24	83	0.699

CTA26

4	26	80	2.616
4	27	80	2.733
6	23	80	2.580
1	18	81	3.116
1	21	81	2.446
10	25	81	2.854
10	26	81	2.542
4	26	82	2.950
5	5	82	2.888
5	7	82	2.888
5	8	82	2.773
5	9	82	2.639
5	10	82	2.213
5	11	82	2.582
5	12	82	2.783
5	14	82	2.338
5	15	82	2.753
5	16	82	2.597
2	17	83	2.244
2	24	83	2.499

3C93

4	26	80	0.910
4	27	80	0.914
6	23	80	0.906
1	18	81	1.012
1	21	81	0.829
10	25	81	0.911
10	26	81	0.940
4	26	82	0.998
5	5	82	0.988
5	7	82	0.987
5	8	82	0.891
5	9	82	0.859
5	10	82	0.833
5	11	82	0.847
5	12	82	0.931
5	14	82	0.891
5	15	82	0.889
5	16	82	0.835
2	17	83	0.827
2	24	83	0.878

0400+258

4	26	80	1.299
4	27	80	1.296
6	23	80	1.258
1	18	81	1.340
1	21	81	1.226
10	25	81	1.276
10	26	81	1.274
4	26	82	1.325
5	5	82	1.337
5	6	82	1.343
5	7	82	1.301
5	8	82	1.248
5	9	82	1.241
5	10	82	1.203
5	11	82	1.315
5	12	82	1.309
5	14	82	1.299
5	15	82	1.342
5	16	82	1.271
2	17	83	1.208
2	24	83	1.280

0406+121

4	26	80	0.981
4	27	80	1.158
6	23	80	1.033
1	18	81	1.085
1	21	81	0.839
10	25	81	1.070
10	26	81	1.047
4	26	82	0.897
5	5	82	0.893
5	6	82	0.938
5	7	82	1.072
5	8	82	0.883
5	9	82	0.987
5	10	82	0.794
5	11	82	0.794
5	12	82	0.902
5	14	82	1.001
5	15	82	0.949
5	16	82	1.037
2	17	83	0.678
2	24	83	0.764

0420-014

4	26	80	3.764
4	27	80	3.815
6	23	80	3.828
1	18	81	3.953
1	21	81	2.992
10	25	81	3.676
10	26	81	3.656
4	26	82	3.795
4	29	82	4.015
5	13	82	3.725

3C120

4	26	80	3.954
4	27	80	4.072
6	23	80	4.084
1	18	81	3.902
1	21	81	3.346
10	25	81	3.490
10	26	81	3.398
4	26	82	4.376
4	29	82	4.231
5	6	82	4.237
5	13	82	3.704

3C132

4	26	80	1.221
4	27	80	1.240
6	23	80	1.169
1	18	81	1.244
1	21	81	1.151
10	25	81	1.247
10	26	81	1.246
4	26	82	1.255
4	29	82	1.320
5	6	82	1.325
5	13	82	1.263
2	24	83	1.253

3C133

4	26	80	2.290
4	27	80	2.303
1	18	81	2.421
1	21	81	2.115
10	25	81	2.298
10	26	81	2.318
4	26	82	2.479
4	29	82	2.540
5	6	82	2.429
5	13	82	2.242
2	24	83	2.496

3C138

4	26	80	4.229
4	27	80	4.157
1	18	81	4.325
1	21	81	3.986
10	1	81	4.423
10	25	81	4.259
10	26	81	4.209
4	26	82	4.562
4	29	82	4.611
5	6	82	4.660
5	13	82	4.191
2	24	83	4.335

0528+134

4	26	80	3.597
4	27	80	3.564
1	18	81	4.248
1	21	81	4.034
10	1	81	3.980
10	25	81	4.118
10	26	81	4.289
4	26	82	4.355
4	29	82	4.262
5	6	82	4.432

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        0531+194

 4  26  80        2.525
 4  27  80        2.528
 1  18  81        2.643
 1  21  81        2.354
10   1  81        2.520
10  25  81        2.517
10  26  81        2.397
 4  26  82        2.690
 4  29  82        2.593
 5   6  82        2.726
 5  13  82        2.302
 2  24  83        2.5[illegible]6
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        0548+165

 4  26  80        1.040
 4  27  80        1.005
 1  18  81        1.069
 1  21  81        0.954
10   1  81        1.015
10  25  81        0.952
10  26  81        1.023
 4  26  82        1.056
 4  27  82        1.098
 5   6  82        1.079
 5  13  82        1.020
 2  24  83        1.014
```

```
        0605-085

 4  26  80        2.918
 4  27  80        2.925
 1  18  81        3.358
 1  21  81        2.640
 8   3  81        3.746
10   1  81        3.272
10  25  81        3.314
10  26  81        3.367
 4  26  82        3.335
 4  29  82        3.431
 5   6  82        3.319
 5  13  82        3.180
 2  24  83        3.079
```

```
        3C161

 4  26  80        6.938
 4  27  80        7.395
 1  18  81        7.691
 1  21  81        6.133
 8   3  81        7.425
10   1  81        7.164
10  25  81        7.191
10  26  81        7.011
 4  26  82        7.051
 4  29  82        7.167
 5  13  82        6.910
```

```
        3C165

 4  26  80        0.812
 4  27  80        0.809
 1  18  81        0.823
 1  21  81        0.763
10   1  81        0.810
10  25  81        0.820
10  26  81        0.795
 4  26  82        0.873
 4  29  82        0.803
 5   6  82        0.807
 5  13  82        0.792
 2  24  83        0.789
```

```
        3C175.1

 4  26  80        0.614
 4  27  80        0.620
 1  18  81        0.663
 1  21  81        0.581
 8   3  81        0.566
10   1  81        0.615
10  25  81        0.588
10  26  81        0.609
 4  26  82        0.576
 4  29  82        0.576
 2  24  83        0.587
```

```
        0723-008

 8  17  81        2.074
10  25  81        2.113
10  26  81        2.010
 4  26  82        2.033
 4  29  82        1.983
 2  24  83        1.978
```

```
        0736+017

 4  26  80        1.659
 4  27  80        1.714
 1  19  81        1.598
 1  21  81        1.454
 8   3  81        1.540
 8  12  81        1.577
10  25  81        1.745
10  26  81        1.678
 4  26  82        2.100
 4  29  82        2.119
 2  24  83        2.301
```

```
        0742+103

 4  27  80        3.710
 1  19  81        3.802
 1  21  81        3.438
 8   3  81        3.916
 8  12  81        3.522
 8  17  81        3.703
10  25  81        3.578
10  26  81        3.563
 4  26  82        3.488
 4  29  82        3.513
```

```
        3C198

 4  26  80        0.798
 4  27  80        0.801
 1  19  81        0.814
 1  22  81        0.782
 8   3  81        0.777
 8   8  81        0.789
 8   9  81        0.821
 8  12  81        0.813
 8  14  81        0.814
 8  17  81        0.802
10  25  81        0.749
10  26  81        0.734
 4  26  82        0.808
 4  29  82        0.789
 2  24  83        0.784
```

```
        0820+225

 4  26  80        1.714
 4  27  80        1.693
 1  19  81        1.724
 1  22  81        1.586
 8   3  81        1.725
 8   8  81        1.781
 8   9  81        1.654
 8  10  81        1.786
 8  12  81        1.642
 8  14  81        1.717
 8  15  81        1.750
 8  16  81        1.598
 8  17  81        1.804
 8  18  81        1.714
 8  19  81        1.775
 8  21  81        1.697
10  25  81        1.659
10  26  81        1.654
 4  26  82        1.724
 2  24  83        1.626
```

```
        0823+033

 4  26  80        0.980
 4  27  80        0.898
 1  19  81        1.023
 1  22  81        0.977
 8   3  81        1.142
 8   8  81        1.088
 8   9  81        1.091
 8  10  81        1.078
 8  11  81        1.130
 8  12  81        1.014
 8  14  81        1.083
 8  15  81        0.952
 8  16  81        1.078
 8  17  81        1.115
 8  19  81        1.160
 8  21  81        1.128
10  25  81        1.114
10  26  81        1.144
 4  26  82        1.304
 4  29  82        1.299
 2  24  83        1.595
```

```
        3C207

 4  26  80        1.257
 4  27  80        1.229
 1  19  81        1.288
 1  22  81        1.194
 8   9  81        1.644
 8  10  81        1.220
 8  11  81        1.246
 8  12  81        1.001
 8  14  81        1.419
 8  15  81        1.300
 8  16  81        1.245
 8  17  81        1.283
 8  18  81        1.343
 8  21  81        1.255
10  25  81        1.181
10  26  81        1.238
 4  26  82        1.224
 4  29  82        1.251
 2  24  83        1.294
```

```
        OJ287

 4  26  80        2.890
 4  27  80        2.878
 1  19  81        2.397
 1  22  81        2.079
 8   9  81        3.226
 8  10  81        2.776
 8  11  81        2.883
 8  12  81        2.560
 8  14  81        2.808
 8  15  81        3.008
 8  16  81        2.819
 8  17  81        2.844
 8  18  81        2.957
 8  19  81        2.867
 8  21  81        2.433
10  25  81        2.946
10  26  81        3.094
 4  26  82        3.085
 4  29  82        3.071
 2  24  83        4.309
```

```
        3C213.1

 4  26  80        0.877
 4  27  80        0.866
 1  19  81        0.931
 1  22  81        0.842
 8   3  81        0.983
 8   8  81        0.934
 8   9  81        0.921
 8  10  81        0.869
 8  11  81        0.893
 8  12  81        0.881
 8  14  81        0.935
 8  15  81        0.991
 8  16  81        0.929
 8  17  81        0.913
 8  18  81        0.910
 8  19  81        0.909
 8  21  81        0.938
10  25  81        0.864
10  26  81        0.873
 4  26  82        0.918
 4  29  82        0.918
 2  24  83        0.955
```

```
        3C226

 4  26  80        0.545
 4  27  80        0.536
 1  19  81        0.560
 1  22  81        0.516
 8   3  81        0.582
 9  11  81        0.549
10  25  81        0.544
10  26  81        0.524
 4  26  82        0.541
 4  29  82        0.547
 2  24  83        0.528
```

```
        3C228

 4  26  80        1.133
 6  26  80        1.162
 1  19  81        1.216
 1  22  81        1.089
 8   3  81        1.213
 9  11  81        1.184
10  25  81        1.148
10  26  81        1.108
 4  26  82        1.170
 4  29  82        1.193
 2  24  83        1.144
```

```
        OK290

 4  26  80        1.447
 6  26  80        1.376
 1  19  81        1.318
 1  22  81        1.186
 8   3  81        1.131
 8   8  81        1.079
 8   9  81        1.077
 8  10  81        1.132
 8  11  81        1.218
 8  12  81        1.166
 8  14  81        0.952
 8  15  81        1.102
 8  16  81        1.220
 8  17  81        1.090
 8  19  81        1.227
 8  21  81        1.275
 9  11  81        1.136
10  25  81        1.086
10  26  81        1.029
 4  29  82        0.864
 2  24  83        0.827
```

```
        3C237

 4  26  80        2.027
 6  26  80        1.989
 1  19  81        2.040
 1  22  81        1.847
 8   3  81        2.002
 8   8  81        2.141
 8   9  81        2.054
 8  10  81        2.026
 8  11  81        2.151
 8  12  81        1.611
 8  14  81        1.975
 8  15  81        2.324
 9  11  81        1.845
 9  14  81        2.049
10  25  81        1.905
 4  29  82        1.922
 2  25  83        1.971
```

```
        1013+208

 4  25  80        0.675
 4  26  80        0.660
 6  26  80        0.649
 1  19  81        0.721
 1  22  81        0.625
 8   3  81        0.687
 8   8  81        0.767
 8   9  81        0.726
 8  10  81        0.767
 8  11  81        0.650
 8  12  81        0.729
 8  14  81        0.763
 8  15  81        0.751
 8  16  81        0.714
 8  17  81        0.835
 8  21  81        0.733
 9  11  81        0.792
 9  13  81        0.703
 9  14  81        0.717
10  25  81        0.682
 4  29  82        0.694
 2  25  83        0.727
```

```
        1022+194

 4  25  80        0.708
 4  26  80        0.740
 6  26  80        0.727
 1  19  81        0.757
 1  22  81        0.68[illegible]
 8   3  81        0.775
 8   8  81        0.718
 8   9  81        0.719
 8  10  81        0.606
 8  11  81        0.766
 8  12  81        0.733
 8  14  81        0.898
 8  17  81        0.752
 8  19  81        0.589
 9  11  81        0.769
 9  12  81        0.775
 9  13  81        0.774
 9  14  81        0.762
 9  15  81        0.802
 9  16  81        0.773
 9  18  81        0.741
 9  19  81        0.785
 9  20  81        0.844
 9  21  81        0.755
 9  22  81        0.788
 9  23  81        0.555
 9  25  81        0.745
 9  26  81        0.836
 9  27  81        0.778
 9  28  81        0.705
 9  29  81        0.792
 9  30  81        0.593
10  25  81        0.765
 4  29  82        0.687
 2  25  83        0.699
```

```
        3C245

 4  25  80        1.440
 4  26  80        1.400
 6  26  80        1.364
 1  19  81        1.465
 1  22  81        1.360
 8   3  81        1.531
 8   8  81        1.513
 8   9  81        1.585
 8  10  81        1.567
 8  11  81        1.343
 8  12  81        1.379
 8  14  81        1.562
 8  15  81        1.548
 8  16  81        1.601
 8  17  81        1.635
 8  19  81        1.476
 9  11  81        1.325
 9  12  81        1.270
 9  13  81        1.346
 9  14  81        1.398
 9  15  81        1.543
 9  16  81        1.521
 9  18  81        1.444
 9  19  81        1.524
 9  20  81        1.489
 9  21  81        1.450
 9  22  81        1.525
 9  23  81        1.361
 9  25  81        1.475
 9  26  81        1.583
 9  27  81        1.537
 9  28  81        1.334
 9  29  81        1.385
 9  30  81        1.422
10   2  81        1.476
10  25  81        1.419
 4  29  82        1.420
 2  25  83        1.528
```

```
        1148-001

 7  16  79        1.938
 4  25  80        1.781
 4  26  80        1.605
 6  26  80        1.700
 1  19  81        1.880
 1  22  81        1.652
 8   3  81        1.848
 8  17  81        1.840
 9  11  81        1.479
 9  29  81        1.608
 9  30  81        1.739
10   2  81        1.780
10   3  81        1.794
10   4  81        1.821
10   5  81        1.827
10   6  81        1.874
10  12  81        1.906
10  13  81        1.848
10  14  81        1.717
10  16  81        1.779
10  17  81        1.714
10  18  81        1.871
10  19  81        1.693
10  20  81        1.809
10  21  81        1.714
10  23  81        1.708
10  24  81        1.625
10  25  81        1.738
 4  29  82        1.699
 2  25  83        1.762
```

```
        1155+251

 7  16  79        0.902
 4  25  80        0.896
 4  26  80        0.883
 6  26  80        0.816
 1  19  81        0.903
 1  22  81        0.886
 8   3  81        0.987
 8  17  81        0.953
 9  11  81        1.008
 9  12  81        0.985
 9  13  81        0.995
 9  14  81        0.984
 9  15  81        0.926
 9  16  81        0.996
 9  18  81        0.921
 9  19  81        0.956
 9  20  81        1.067
 9  21  81        0.981
 9  22  81        0.937
 9  23  81        0.937
 9  25  81        0.967
 9  26  81        0.979
 9  27  81        0.881
 9  28  81        0.961
 9  29  81        0.981
 9  31  81        0.974
10   2  81        0.972
10   3  81        0.898
10   4  81        0.953
10   5  81        0.858
10   6  81        0.920
10  12  81        0.902
10  13  81        0.857
10  14  81        0.899
10  16  81        0.891
10  17  81        0.886
10  18  81        0.907
10  19  81        0.939
10  20  81        0.908
10  21  81        0.853
10  23  81        0.865
10  24  81        0.861
10  25  81        0.867
 4  29  82        0.901
 2  25  83        0.902
```

```
        1210+134

 7  16  79        0.809
 4  25  80        0.745
 4  26  80        0.772
 6  26  80        0.760
 1  19  81        0.804
 1  22  81        0.772
 8   3  81        0.774
 8   6  81        0.774
 8  17  81        0.783
 9  11  81        0.794
 9  12  81        0.821
 9  13  81        0.786
 9  14  81        0.808
 9  15  81        0.672
 9  16  81        0.666
 9  18  81        0.839
 9  19  81        0.751
 9  20  81        0.874
 9  21  81        0.781
 9  22  81        0.775
 9  23  81        0.757
 9  25  81        0.712
 9  26  81        0.762
 9  27  81        0.755
 9  28  81        0.702
 9  29  81        0.735
 9  30  81        0.770
10   2  81        0.723
10   3  81        0.724
10   4  81        0.751
10   5  81        0.800
10   6  81        0.759
10  12  81        0.736
10  13  81        0.688
10  14  81        0.762
10  16  81        0.665
10  17  81        0.688
10  18  81        0.759
10  19  81        0.715
10  20  81        0.701
10  21  81        0.674
10  23  81        0.665
10  24  81        0.654
10  25  81        0.660
 4  29  82        0.739
 2  25  83        0.806
```

```
 7  16  79        2.835
 4  25  80        2.614
 4  26  80        2.623
 6  26  80        2.443
 1  19  81        2.717
 1  22  81        2.488
 8   3  81        2.629
 8   6  81        2.689
 8  17  81        2.407
 9  11  81        2.876
 9  12  81        2.567
 9  13  81        2.881
 9  14  81        2.889
 9  15  81        2.616
 9  16  81        2.765
 9  18  81        2.627
 9  19  81        2.691
 9  20  81        2.854
 9  21  81        2.739
 9  22  81        2.893
 9  23  81        2.552
 9  25  81        2.741
 9  26  81        2.805
 9  27  81        2.815
 9  28  81        2.688
 9  29  81        2.680
 9  30  81        2.665
10   2  81        2.452
10   3  81        2.496
10   4  81        2.548
10   5  81        2.552
10   6  81        2.597
10  12  81        2.805
10  13  81        2.538
10  14  81        2.618
10  16  81        2.430
10  17  81        2.579
10  18  81        2.638
10  19  81        2.602
10  20  81        2.477
10  21  81        2.448
10  23  81        2.472
10  24  81        2.458
10  25  81        2.552
 4  29  82        2.618
 2  25  83        2.650
```

3C273

```
 7  16  79       34.512
 4  25  80       33.774
 4  26  80       33.981
 6  26  80       31.452
 1  19  81       33.936
 1  22  81       32.056
 8   3  81       25.082
 8   6  81       26.343
 8  17  81       30.568
 9  11  81       34.069
 9  12  81       31.278
 9  13  81       33.231
 9  14  81       32.661
 9  15  81       32.286
 9  16  81       33.809
 9  18  81       31.779
 9  19  81       32.810
 9  20  81       35.701
 9  21  81       33.661
 9  22  81       32.527
 9  23  81       29.965
 9  25  81       30.926
 9  26  81       31.898
 9  27  81       33.038
 9  28  81       32.100
 9  29  81       36.187
 9  30  81       42.577
10   2  81       30.010
10   3  81       31.071
10   4  81       33.383
10   5  81       30.146
10   6  81       30.883
10  12  81       30.954
10  13  81       28.985
10  14  81       30.238
10  16  81       29.359
10  17  81       31.180
10  18  81       31.892
10  19  81       30.546
10  20  81       29.900
10  21  81       28.303
10  23  81       29.209
10  24  81       29.027
10  25  81       30.286
 4  29  82       30.125
 2  25  83       33.042
```

3C275.1

```
 7  16  79        0.883
 4  25  80        0.931
 4  26  80        0.918
 6  26  80        0.839
 1  19  81        0.939
 1  22  81        0.903
 8   3  81        0.890
 8   6  81        0.950
 8  13  81        0.938
 8  17  81        0.849
 9  11  81        1.012
 9  12  81        0.992
 9  13  81        0.995
 9  14  81        1.003
 9  15  81        0.967
 9  21  81        1.080
 9  23  81        0.946
 9  25  81        0.926
 9  26  81        0.998
 9  27  81        1.031
 9  28  81        0.714
 9  29  81        0.986
 9  30  81        0.908
10   2  81        0.927
10   3  81        0.979
10   4  81        0.857
10   5  81        0.877
10   6  81        0.895
10  12  81        0.860
10  13  81        0.830
10  14  81        0.900
10  16  81        0.875
10  17  81        0.873
10  18  81        0.955
10  19  81        0.999
10  20  81        0.870
10  21  81        0.855
10  23  81        0.830
10  24  81        0.866
10  25  81        0.878
```

```
 7  16  79       11.765
 4  25  80        9.938
 4  26  80       10.051
 6  26  80       10.098
 1  19  81       10.783
 1  22  81        9.892
 8   3  81       11.028
 8   6  81       11.151
 8  17  81       10.919
 9  11  81       12.818
 9  21  81       12.376
 9  23  81       10.018
 9  25  81       11.502
 9  26  81       11.477
 9  27  81       11.932
 9  28  81        9.837
 9  29  81       12.685
 9  30  81       10.397
10   4  81       14.868
10  16  81       15.895
10  17  81       11.309
10  18  81       10.276
10  20  81       11.172
10  21  81        9.995
10  23  81       10.632
10  24  81       10.598
10  25  81       11.182
```

1313+07

```
 7  16  79        0.725
 4  25  80        0.793
 4  26  80        0.761
 6  26  80        0.737
 1  19  81        0.791
 1  22  81        0.725
 8   3  81        0.758
 8   6  81        0.772
 8  17  81        0.729
 9  11  81        0.845
 9  26  81        0.861
 9  27  81        0.855
 9  28  81        0.805
 9  29  81        0.875
 9  30  81        0.795
10   2  81        0.764
10   3  81        0.695
10   4  81        0.758
10   5  81        0.790
10   6  81        0.782
10  12  81        0.748
10  13  81        0.699
10  14  81        0.778
10  16  81        0.746
10  17  81        0.754
10  18  81        0.946
10  19  81        0.737
10  20  81        0.703
10  21  81        0.734
10  23  81        0.688
10  24  81        0.703
10  25  81        0.735
 2  17  83        0.781
 2  25  83        0.775
```

1318+113

```
 7  16  79        0.748
 4  25  80        0.735
 4  26  80        0.705
 6  26  80        0.698
 1  19  81        0.778
 1  22  81        0.754
 8   3  81        0.723
 8   6  81        0.725
 8  17  81        0.718
 9  11  81        0.859
 9  26  81        0.784
 9  27  81        0.799
 9  28  81        0.702
 9  29  81        0.805
 9  30  81        0.752
10   2  81        0.760
10   3  81        0.749
10   4  81        0.707
10   5  81        0.709
10   6  81        0.642
10  12  81        0.695
10  13  81        0.704
10  16  81        0.688
10  17  81        0.691
10  18  81        0.749
10  19  81        0.716
10  20  81        0.728
10  21  81        0.669
10  23  81        0.672
10  24  81        0.672
10  25  81        0.732
 2  17  83        0.754
 2  25  83        0.703
```

3C286

```
 7  16  79        7.578
 4  25  80        7.059
 4  26  80        7.172
 6  26  80        6.985
 1  19  81        7.411
 1  22  81        7.063
 8   3  81        7.624
 8   6  81        7.408
 8  17  81        7.310
 8  21  81        6.708
 9  11  81        7.837
 9  26  81        7.828
 9  27  81        7.434
 9  28  81        7.519
 9  29  81        7.814
 9  30  81        7.397
10   2  81        7.388
10   3  81        7.382
10   4  81        7.370
10   5  81        7.233
10   6  81        7.299
10  12  81        7.313
10  13  81        7.033
10  14  81        7.399
10  16  81        7.268
10  17  81        7.137
10  18  81        7.487
10  19  81        7.058
10  20  81        7.264
10  21  81        7.160
```

```
 7  16  79        2.699
 4  25  80        2.449
 4  26  80        2.581
 6  26  80        2.386
 1  19  81        2.541
 1  22  81        2.446
 8   3  81        2.592
 8   6  81        2.570
 8  17  81        2.518
 9  11  81        2.839
 9  26  81        3.005
 9  27  81        2.753
 9  28  81        2.718
 9  29  81        2.866
 9  30  81        2.718
10   3  81        2.628
10   4  81        2.647
10   5  81        2.541
10   6  81        2.611
10  12  81        2.522
10  13  81        2.445
10  14  81        2.608
10  16  81        2.425
10  17  81        2.470
10  18  81        3.263
10  19  81        2.504
10  20  81        2.629
10  21  81        2.501
10  23  81        2.415
10  24  81        2.438
10  25  81        2.410
 5   4  82        2.632
 5   5  82        2.608
 5   7  82        2.634
 5   8  82        2.576
 2  17  83        2.780
 2  25  83        2.623
```

1354+195

```
 7  16  79        1.845
 4  25  80        1.579
 4  26  80        1.518
 6  26  80        1.485
 1  19  81        1.498
 1  22  81        1.516
 8   3  81        1.612
 8   6  81        1.508
 8  17  81        1.461
 9  11  81        1.695
 9  26  81        1.717
 9  27  81        1.544
 9  28  81        1.577
 9  29  81        1.691
 9  30  81        1.579
10   3  81        1.497
10   6  81        1.464
10  12  81        1.521
10  13  81        1.479
10  14  81        1.511
10  16  81        1.472
10  17  81        1.454
10  18  81        1.630
10  19  81        1.479
10  20  81        1.592
10  21  81        1.408
10  23  81        1.411
10  24  81        1.482
10  25  81        1.432
 5   4  82        1.567
 5   5  82        1.439
 5   7  82        1.548
 5   8  82        1.532
 2  17  83        1.798
 2  25  83        1.555
```

OQ208

```
 7  16  79        2.759
 4  26  80        2.598
 4  27  80        2.627
 6  26  80        2.487
 1  19  81        2.736
 1  22  81        2.565
 8   3  81        2.763
 8   6  81        2.759
 8  17  81        2.787
 9  11  81        2.911
10   3  81        2.654
10  12  81        2.639
10  13  81        2.639
10  14  81        2.616
10  16  81        2.679
10  17  81        2.655
10  18  81        2.843
10  19  81        2.678
10  20  81        2.742
10  21  81        2.580
10  23  81        2.527
10  24  81        2.620
10  25  81        2.631
 5   4  82        2.760
 5   5  82        2.694
 5   7  82        2.574
 5   8  82        2.623
 2  17  83        2.882
 2  25  83        2.680
```

3C298

```
 7  16  79        1.554
 4  26  80        1.521
 4  27  80        1.569
 6  26  80        1.415
 1  19  81        1.574
 1  22  81        1.502
 8   3  81        1.401
 8   6  81        1.432
 8  17  81        1.407
 9  11  81        1.661
10   3  81        1.358
10  12  81        1.427
10  13  81        1.458
10  14  81        1.529
10  16  81        1.450
10  17  81        1.502
10  18  81        1.475
10  19  81        1.400
10  20  81        1.500
10  21  81        1.468
10  23  81        1.360
10  24  81        1.471
10  25  81        1.326
 5   4  82        1.459
 5   5  82        1.408
 5   7  82        1.433
 5   8  82        1.386
```

1434+036

```
 7  16  79        1.181
 4  26  80        1.116
 4  27  80        1.134
 6  26  80        1.044
 1  19  81        1.164
 1  22  81        1.064
 8   3  81        1.092
 8   6  81        1.084
 8  17  81        1.065
 9  11  81        1.199
10   3  81        1.076
10  13  81        1.066
10  14  81        1.245
10  16  81        1.083
10  17  81        1.122
10  18  81        1.018
10  19  81        1.023
10  20  81        1.146
10  21  81        1.081
10  23  81        0.965
10  24  81        1.069
10  25  81        1.004
 5   5  82        1.115
 5   7  82        1.072
 5   8  82        1.058
 2  17  83        1.227
 2  25  83        1.124
```

OQ172

```
 7  16  79        1.037
 4  26  80        1.010
 4  27  80        1.034
 6  26  80        0.922
 1  19  81        1.061
 1  22  81        0.995
 8   3  81        1.110
 8   6  81        1.094
 8  17  81        1.061
 8  21  81        1.044
 9  11  81        1.175
10   3  81        1.010
10  21  81        1.112
10  23  81        0.993
10  24  81        1.062
10  25  81        1.060
 5   5  82        1.059
 5   6  82        1.018
 5   7  82        0.986
 5   8  82        0.973
 2  17  83        1.199
 2  25  83        1.123
```

3C304

```
 7  16  79        0.276
 4  26  80        0.263
 4  27  80        0.271
 6  26  80        0.255
 1  19  81        0.300
 1  22  81        0.299
 8   3  81        0.278
 8   6  81        0.270
 8  17  81        0.273
 8  21  81        0.295
 9  11  81        0.325
10   3  81        0.288
10  21  81        0.284
10  23  81        0.237
10  25  81        0.261
 5   5  82        0.285
 5   6  82        0.299
 5   8  82        0.287
 5   9  82        0.284
 2  17  83        0.323
 2  25  83        0.273
```

OR103

```
 7  16  79        1.772
 4  26  80        1.301
 4  27  80        1.329
 6  26  80        1.268
 1  19  81        1.327
 1  22  81        1.237
 8   3  81        1.355
 8   6  81        1.314
 8  17  81        1.368
 9  11  81        1.505
10   3  81        1.407
10  25  81        1.357
 5   5  82        1.318
 5   6  82        1.342
 5   8  82        1.433
 5   9  82        1.323
 5  10  82        1.314
 2  17  83        1.494
 2  25  83        1.323
```

3C317

```
 7  16  79        0.818
 4  26  80        0.798
 4  27  80        0.774
 6  26  80        0.726
 1  19  81        0.843
 1  22  81        0.752
 8   3  81        0.753
 8   6  81        0.749
 8  17  81        0.707
 9  11  81        0.893
10   3  81        0.798
10  25  81        0.775
 5   4  82        0.761
 5   5  82        0.759
 5   6  82        0.780
 5   8  82        0.719
 5   9  82        0.699
 5  10  82        0.774
 2  17  83        0.845
 2  25  83        0.766
```

1523+033

```
 7  16  79        0.641
 4  26  80        0.647
 4  27  80        0.578
 6  26  80        0.613
 1  19  81        0.622
 1  22  81        0.556
 8   3  81        0.612
 8   6  81        0.608
 8  17  81        0.563
 9  11  81        0.706
10   3  81        0.653
10  25  81        0.587
 5   4  82        0.598
 5   5  82        0.611
 5   6  82        0.578
 5   8  82        0.591
 5   9  82        0.566
 5  10  82        0.583
 2  17  83        0.655
 2  25  83        0.574
```

1532+016

```
 7  16  79        0.735
 4  26  80        0.661
 4  27  80        0.644
 6  26  80        0.672
 1  19  81        0.702
 1  22  81        0.635
 8   3  81        0.648
 8   6  81        0.632
 8  17  81        0.627
 9  11  81        0.676
10   3  81        0.599
10  25  81        0.610
 5   6  82        0.628
 5   9  82        0.597
 5  10  82        0.634
 2  17  83        0.794
 2  25  83        0.658
```

1538+149

```
 7  16  79        1.278
 4  26  80        1.372
 4  27  80        1.323
 6  26  80        1.395
 1  19  81        1.306
 8   3  81        1.237
 8   6  81        1.253
 8  17  81        1.039
 8  21  81        1.259
 9  11  81        1.403
10   3  81        1.182
10  25  81        1.108
 5   4  82        1.175
 5   5  82        1.178
 5   6  82        1.132
 5   8  82        1.072
 5   9  82        0.930
 5  10  82        0.966
 2  17  83        1.497
 2  25  83        1.402
```

3C323.1

```
 7  16  79        0.846
 4  26  80        0.783
 4  27  80        0.801
 6  26  80        0.711
 1  19  81        0.822
 8   3  81        0.791
 8   6  81        0.787
 8  17  81        0.735
 8  21  81        0.770
 9  11  81        0.836
10   3  81        0.777
10  25  81        0.743
 5   4  82        0.777
 5   5  82        0.784
 5   6  82        0.770
 5   8  82        0.784
 5   9  82        0.797
 5  10  82        0.769
 2  17  83        0.819
 2  25  83        0.758
```

1555+001

```
 7  16  79        1.243
 4  26  80        0.853
 4  27  80        0.911
 6  26  80        0.863
 8   3  81        0.791
 8   6  81        0.715
 8  21  81        0.785
 9  11  81        0.803
10  25  81        0.766
 5   4  82        0.778
 5   5  82        0.746
 5   6  82        0.743
 5   8  82        0.775
 5   9  82        0.746
 5  10  82        0.764
 2  17  83        0.728
 2  25  83        0.654
```

```
              1647+268

  7  16  79           1.623
  4  26  80           1.578
  4  27  80           1.532
  6  26  80           1.397
  1  19  81           1.611
  8   3  81           1.490
  8   6  81           1.616
  9  11  81           1.523
 10   3  81           1.502
 10  25  81           1.454
  5   4  82           1.572
  5   5  82           1.559
  5   6  82           1.584
  5   8  82           1.496
  5   9  82           1.590
  5  10  82           1.555
  2  17  83           1.695
  2  25  83           1.519

              1616+063

  7  16  79           0.790
  4  26  80           0.684
  4  27  80           0.696
  6  26  80           0.661
  8   3  81           0.715
  8   6  81           0.732
  9  11  81           0.709
 10   3  81           0.745
 10  25  81           0.707
  5   4  82           0.684
  5   5  82           0.684
  5   6  82           0.675
  5   8  82           0.682
  5   9  82           0.666
  5  10  82           0.677
  2  25  83           0.657

              3C336

  7  16  79           0.801
  4  26  80           0.761
  4  27  80           0.731
  6  26  80           0.659
  1  19  81           0.761
  8   3  81           0.744
  8   6  81           0.736
  9  11  81           0.756
 10   3  81           0.753
 10  25  81           0.686
  5   4  82           0.724
  5   5  82           0.733
  5   6  82           0.735
  5   8  82           0.712
  5   9  82           0.728
  5  10  82           0.711
  2  17  83           0.814
  2  25  83           0.750

              1629+120

  7  16  79           0.723
  4  26  80           0.692
  4  27  80           0.610
  6  26  80           0.592
  1  19  81           0.663
  8   3  81           0.630
  8   6  81           0.664
  9  11  81           0.652
 10   3  81           0.649
 10  25  81           0.611
  5   4  82           0.607
  5   5  82           0.606
  5   6  82           0.586
  5   8  82           0.586
  5   9  82           0.592
  5  10  82           0.590
  2  17  83           0.696
  2  25  83           0.662

              3C342

  7  16  79           0.457
  4  26  80           0.407
  4  27  80           0.425
  6  26  80           0.399
  1  19  81           0.393
  8   3  81           0.438
  8   6  81           0.429
  9  11  81           0.411
 10   3  81           0.421
 10  25  81           0.414
  5   4  82           0.430
  5   5  82           0.428
  5   6  82           0.425
  5   8  82           0.416
  5   9  82           0.432
  5  10  82           0.431
  2  17  83           0.440
  2  25  83           0.444

              1656+053

  7  16  79           1.663
  4  26  80           1.485
  4  27  80           1.481
  6  26  80           1.439
  1  19  81           1.432
  8   3  81           1.344
  8   6  81           1.386
  9  11  81           1.342
 10   3  81           1.230
 10  25  81           1.285
  5   4  82           1.118
  5   5  82           1.143
  5   6  82           1.124
  5   8  82           1.122
  5   9  82           1.134
  5  10  82           1.109

              1705+010

  7  16  79           0.654
  4  26  80           0.567
  4  27  80           0.814
  6  26  80           0.604
  1  19  81           0.670
  8   3  81           0.663
  8   6  81           0.663
  9  11  81           0.668
 10   3  81           0.612
 10  25  81           0.620
  5   4  82           0.589
  5   5  82           0.602
  5   8  82           0.653
  5   9  82           0.629
  5  10  82           0.675
  2  17  83           0.672
  2  25  83           0.592

              3C359

  7  16  79           0.291
  4  26  80           0.209
  4  27  80           0.190
  6  26  80           0.200
  1  19  81           0.205
  8   3  81           0.210
  8   6  81           0.212
  9  11  81           0.245
 10   3  81           0.207
 10  25  81           0.235
  5   4  82           0.200
  5   6  82           0.196
  5   8  82           0.207
  5   9  82           0.202
  5  10  82           0.200
  2  25  83           0.210

              OT068

  7  16  79           2.993
  4  26  80           2.460
  4  27  80           2.387
  6  26  80           2.505
  1  19  81           2.922
  8   3  81           2.733
  8   6  81           2.858
  9  11  81           2.231
 10   3  81           2.153
 10  25  81           2.515
  5   4  82           2.341
  5   6  82           2.295
  5  10  82           2.280
  2  25  83           2.103

              OT081

  7  16  79           1.739
  4  26  80           1.737
  4  27  80           1.707
  6  26  80           1.576
  1  19  81           1.578
  8   3  81           1.622
  8   6  81           1.590
  9  11  81           1.658
 10   3  81           1.386
 10  25  81           1.405
  5   4  82           0.989
  5   5  82           0.998
  5   6  82           1.023
  5   8  82           1.007
  5   9  82           0.985
  5  10  82           0.968
  2  25  83           0.797

              1801+01

  7  16  79           1.027
  4  26  80           0.864
  4  27  80           0.864
  6  26  80           0.867
  1  19  81           1.031
  8   3  81           0.907
  8   6  81           0.980
 10   3  81           0.900
 10  25  81           1.013
  5   8  82           1.016
  5   9  82           0.982
  2  25  83           0.939

              1821+107

  7  16  79           1.078
  4  26  80           1.062
  4  27  80           1.074
  6  27  80           0.752
  1  19  81           1.006
  8   3  81           1.052
  8   6  81           1.048
  9  11  81           1.002
 10   3  81           1.010
 10  25  81           0.987
  5   4  82           0.917
  5   5  82           0.952
  5   6  82           0.941
  5   8  82           0.937
  5   9  82           0.946
  5  10  82           0.922
  2  25  83           0.965

              1829+290

  7  16  79           1.115
  4  26  80           1.075
  4  27  80           1.057
  6  27  80           0.987
  1  19  81           1.072
  8   3  81           1.141
  8   6  81           1.148
  9  11  81           1.157
 10   3  81           1.001
 10  25  81           1.017
  5   4  82           1.094
  5   5  82           1.060
  5   6  82           1.114
  5   8  82           1.058
  5   9  82           1.078
  5  10  82           1.110
  2  25  83           1.032

              3C390

  7  16  79           1.631
  4  26  80           1.434
  4  27  80           1.457
  6  27  80           1.360
  1  19  81           1.556
  8   3  81           1.472
  8   6  81           1.359
  9  11  81           1.370
 10   3  81           1.316
 10  25  81           1.285
  5   4  82           1.293
  5   5  82           1.289
  5   6  82           1.340
  5   8  82           1.372
  5   9  82           1.383
  5  10  82           1.336
  2  25  83           1.371

              3C395

  7  16  79           0.780
  4  26  80           0.739
  4  27  80           0.752
  6  27  80           0.691
  1  19  81           0.739
  8   3  81           0.711
  8   6  81           0.698
  9  11  81           0.678
 10   3  81           0.684
 10  25  81           0.715
  5   4  82           0.667
  5   5  82           0.699
  5   6  82           0.704
  5   8  82           0.740
  5   9  82           0.663
  5  10  82           0.687
  2  25  83           0.734

              OV239.7

  7  17  79           1.437
  4  26  80           1.604
  4  27  80           1.547
  6  27  80           1.398
  1  19  81           1.339
  8   3  81           1.250
  8   6  81           1.264
  9  11  81           1.359
 10   3  81           1.491
 10  25  81           1.222
  5   4  82           1.334
  5   5  82           1.221
  5   6  82           1.319
  5   8  82           1.290
  5   9  82           1.276
  5  10  82           1.294
  2  25  83           1.434

              1947+079

  7  17  79           0.973
  4  26  80           0.906
  4  27  80           0.913
  6  27  80           0.828
  1  19  81           0.967
  8   3  81           0.850
  8   6  81           0.872
  9  11  81           0.873
 10   3  81           0.808
 10  25  81           0.816
  5   4  82           0.923
  5   5  82           0.873
  5   6  82           0.869
  5   9  82           0.820
  5  10  82           0.889
  2  25  83           0.872

              2003-025

  7  17  79           0.984
  4  26  80           0.956
  4  27  80           0.741
  6  27  80           0.873
  1  19  81           0.956
  8   3  81           0.923
  8   6  81           1.013
  9  11  81           0.903
 10   3  81           0.908
 10  25  81           0.859
  2   1  82           0.958
  5   4  82           0.908
  5   6  82           0.925
  5   8  82           0.908
  5   9  82           0.827
  5  10  82           0.947
  2  25  83           0.957

              OW-015

  4  26  80           1.420
  4  27  80           1.383
  6  27  80           1.375
  1  19  81           1.433
  8   3  81           1.479
  8   6  81           1.370
  9  11  81           1.466
 10   3  81           1.320
 10  25  81           1.381
  2   1  82           1.299
  5   4  82           1.489
  5   5  82           1.388
  5   8  82           1.489
  5   9  82           1.253
  5  10  82           1.456
  2  25  83           1.307

              3C411

  4  26  80           0.869
  4  27  80           0.850
  6  27  80           0.791
  1  19  81           0.911
  8   3  81           0.784
  8   6  81           0.834
  9  11  81           0.825
 10   3  81           0.765
 10  25  81           0.774
  2   1  82           0.741
  2   2  82           0.814
  5   4  82           0.814
  5   5  82           0.823
  5   6  82           0.806
  5   9  82           0.757
  5  10  82           0.836
  2  25  83           0.797

              2029+121

  7  17  79           0.810
  4  26  80           0.799
  4  27  80           0.858
  6  27  80           0.695
  1  19  81           0.695
  8   3  81           0.576
  8   6  81           0.451
  9  11  81           0.574
 10   3  81           0.505
 10  25  81           0.493
  2   1  82           0.557
  2   2  82           0.580
  5   4  82           0.575
  5   5  82           0.581
  5   6  82           0.555
  5   8  82           0.567
  5   9  82           0.530
  5  10  82           0.567
  2  25  83           0.559

              2033+10

  7  17  79           0.359
  4  26  80           0.312
  4  27  80           0.327
  6  27  80           0.309
  1  18  81           0.331
  8   4  81           0.341
  8   6  81           0.383
  9  11  81           0.324
 10   3  81           0.334
 10  25  81           0.311
  1  31  82           0.362
  2   1  82           0.329
  2   2  82           0.317
  5   4  82           0.330
  5   5  82           0.336
  5   6  82           0.336
  5   8  82           0.319
  5   9  82           0.319
  5  10  82           0.316
  2  25  83           0.303

              3C422

  7  17  79           0.933
  4  26  80           0.824
  4  27  80           0.807
  6  27  80           0.763
  1  18  81           0.869
  1  19  81           0.885
  8   4  81           0.808
  8   7  81           0.858
  9  11  81           0.809
 10   3  81           0.800
 10  25  81           0.797
  2   1  82           0.681
  5   4  82           0.784
  5   5  82           0.784
  2  25  83           0.760

              2049+14

  7  17  79           0.296
  4  26  80           0.266
  4  27  80           0.258
  6  27  80           0.237
  1  18  81           0.291
  1  19  81           0.276
  8   4  81           0.267
  8   7  81           0.269
 10   3  81           0.249
 10  25  81           0.255
  1  31  82           0.280
  2   1  82           0.234
  2   2  82           0.277
  5   4  82           0.255
  5   5  82           0.239
  2  25  83           0.231

              2113+293

  7  17  79           0.994
  4  26  80           0.962
  4  27  80           0.932
  6  27  80           0.882
  1  18  81           0.895
  1  19  81           0.897
  8   4  81           1.038
  8   7  81           1.114
  9  11  81           1.087
 10   3  81           0.951
 10  25  81           0.930
  1  31  82           1.274
  2   1  82           1.214
  2   2  82           1.225
  5   4  82           1.172
  5   5  82           1.148
  2  25  83           0.991

              3C433

  7  17  79           3.721
  4  26  80           3.632
  4  27  80           3.610
  6  27  80           3.429
  1  18  81           3.961
  1  19  81           3.813
  8   4  81           3.749
  8   7  81           3.688
  9  11  81           3.501
 10   3  81           3.482
 10  25  81           3.413
  1  31  82           3.533
  2   1  82           3.397
  2   2  82           3.522
  5   4  82           3.502
  5   5  82           3.460
  2  25  83           3.432

              2120+040

  7  17  79           2.012
  4  26  80           1.874
  4  27  80           1.907
  6  27  80           1.791
  1  18  81           2.054
  1  19  81           2.044
  8   4  81           1.920
  8   7  81           1.917
  9  11  81           1.771
 10   3  81           1.814
 10  25  81           1.805
  1  30  82           1.978
  1  31  82           1.848
  2   1  82           1.789
  2   2  82           1.907
  5   4  82           1.803
  5   5  82           1.779
  2  25  83           1.748

              2134+004

  7  17  79          10.182
  4  26  80           8.977
  4  27  80           9.031
  6  27  80           8.864
  1  18  81           9.505
  1  19  81           9.593
  8   4  81           8.872
  8   7  81           9.059
  9  11  81           8.612
 10   3  81           8.604
 10  25  81           8.432
  1  30  82           9.115
  1  31  82           8.841
  2   1  82           8.366
  2   2  82           8.717
  5   4  82           8.498
  5   5  82           8.458
  2  25  83           8.321

              3C434

  7  17  79           1.033
  4  26  80           0.976
  4  27  80           0.977
  6  27  80           0.941
  1  18  81           1.042
  1  19  81           1.023
  8   4  81           0.996
  8   7  81           1.019
  9  11  81           1.053
 10   3  81           0.958
 10  25  81           0.996
  1  30  82           1.065
  1  31  82           1.059
  2   1  82           1.036
  2   2  82           1.009
  5   4  82           1.085
  5   5  82           0.980
  2  25  83           0.975

              2140+143

  7  17  79           0.771
  4  26  80           0.722
  4  27  80           0.738
  6  27  80           0.670
  1  18  81           0.798
  1  19  81           0.763
  8   4  81           0.715
  8   7  81           0.673
  9  11  81           0.707
 10   3  81           0.658
 10  25  81           0.671
  1  30  82           0.782
  1  31  82           0.769
  2   1  82           0.652
  2   2  82           0.669
  5   4  82           0.723
  5   5  82           0.730
  2  25  83           0.666
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7	17	79	0.830
4	26	80	0.794
4	27	80	0.809
6	27	80	0.768
1	18	81	0.846
1	19	81	0.849
8	4	81	0.863
8	7	81	0.798
9	11	81	0.819
10	3	81	0.816
10	25	81	0.803
1	30	82	0.826
1	31	82	0.818
2	1	82	0.816
2	2	82	0.822
5	4	82	0.799
5	5	82	0.796
2	15	83	0.859
2	25	83	0.885

2210+016

7	17	79	1.123
4	26	80	1.013
4	27	80	1.023
6	27	80	0.944
1	18	81	1.116
1	19	81	1.083
8	4	81	1.028
8	7	81	1.014
9	11	81	1.081
10	3	81	0.952
10	25	81	0.947
1	30	82	1.073
1	31	82	1.255
2	1	82	0.889
2	2	82	0.953
5	4	82	0.955
5	5	82	0.982
2	15	83	1.062
2	25	83	0.975

2216-038

7	17	79	3.741
4	26	80	3.522
4	27	80	3.729
6	27	80	3.663
1	18	81	4.041
1	19	81	4.051
8	4	81	3.691
8	7	81	3.759
9	11	81	3.741
10	3	81	3.592
10	25	81	3.516
1	30	82	4.306
1	31	82	4.627
2	1	82	3.503
2	2	82	3.834
5	5	82	3.699
2	15	83	3.826
2	25	83	5.554

3C446

7	17	79	3.688
4	26	80	3.602
4	27	80	3.626
6	27	80	3.605
1	18	81	4.105
1	19	81	4.143
8	4	81	3.761
8	7	81	4.058
9	11	81	3.913
10	3	81	3.700
10	25	81	3.832
1	30	82	4.439
1	31	82	4.556
2	1	82	3.852
2	2	82	3.918
5	5	82	3.931
2	15	83	4.123

CTA102

7	17	79	3.341
4	26	80	3.692
4	27	80	3.954
6	27	80	3.723
1	18	81	4.548
1	19	81	4.034
8	4	81	4.129
8	7	81	4.216
9	11	81	4.240
10	3	81	3.880
10	25	81	3.829
1	30	82	4.039
1	31	82	4.702
2	1	82	3.632
2	2	82	3.823
5	5	82	3.839
2	15	83	4.236
2	25	83	3.763

7	17	79	1.091
4	26	80	1.029
4	27	80	1.025
6	27	80	0.966
1	18	81	1.132
1	19	81	1.122
8	4	81	1.043
8	7	81	1.008
9	11	81	1.068
10	3	81	1.004
10	25	81	0.967
1	30	82	1.050
1	31	82	1.164
2	1	82	1.031
2	2	82	1.012
5	4	82	1.056
5	5	82	1.015
2	15	83	1.162
2	25	83	0.980

3C454.3

7	17	79	8.474
4	26	80	7.750
4	27	80	7.752
6	27	80	7.712
1	18	81	10.751
1	19	81	10.998
8	4	81	12.138
8	7	81	12.305
9	11	81	12.476
10	3	81	12.565
10	7	81	12.387
10	25	81	12.661
1	30	82	15.841
1	31	82	15.126
2	1	82	15.447
2	2	82	15.257
5	4	82	15.270
5	5	82	15.102
2	15	83	16.767
2	25	83	15.401

3C456

7	17	79	0.768
4	26	80	0.745
4	27	80	0.762
6	27	80	0.696
1	18	81	0.869
1	19	81	0.804
8	4	81	0.837
8	7	81	0.793
9	12	81	0.802
10	3	81	0.781
10	7	81	0.748
10	25	81	0.712
1	30	82	0.836
1	31	82	0.819
2	1	82	0.785
2	2	82	0.788
5	4	82	0.711
5	5	82	0.746
2	15	83	0.869
2	25	83	0.771

3C459

7	17	79	1.272
4	26	80	1.205
4	27	80	1.259
6	27	80	1.136
1	18	81	1.305
1	19	81	1.250
8	4	81	1.240
8	7	81	1.257
9	12	81	1.245
10	3	81	1.287
10	7	81	1.205
10	25	81	1.165
1	30	82	1.287
1	31	82	1.374
2	1	82	1.234
2	2	82	1.223
5	4	82	1.108
5	5	82	1.189
2	15	83	1.343
2	25	83	1.229

[illegible]

7	17	79	0.928
4	26	80	0.644
4	27	80	0.601
6	27	80	0.619
1	18	81	1.037
1	19	81	0.942
8	4	81	1.351
8	7	81	1.351
9	12	81	1.299
10	3	81	1.220
10	7	81	1.192
10	25	81	1.215
1	30	82	1.247
1	31	82	1.337
2	1	82	1.220
2	2	82	1.191
5	4	82	1.121
5	5	82	1.139
2	15	83	1.127
2	25	83	1.071

2320+102

7	17	79	1.083
4	26	80	0.981
4	27	80	0.989
6	27	80	1.011
1	18	81	1.065
1	19	81	1.063
8	4	81	0.967
8	7	81	0.936
9	12	81	0.974
10	3	81	0.915
10	7	81	0.881
10	25	81	0.881
1	30	82	1.078
1	31	82	1.003
2	1	82	0.910
2	2	82	0.889
5	4	82	0.878
5	5	82	0.936
2	15	83	1.078
2	25	83	1.084

3C466

7	17	79	0.810
4	26	80	0.743
4	27	80	0.798
6	27	80	0.728
1	18	81	0.782
1	19	81	0.776
8	4	81	0.778
8	7	81	0.810
9	12	81	0.798
10	3	81	0.715
10	7	81	0.745
10	25	81	0.731
1	30	82	0.814
1	31	82	0.832
2	1	82	0.814
2	2	82	0.802
5	4	82	0.777
5	5	82	0.754
2	15	83	0.864
2	25	83	0.797

2344+092

7	17	79	1.649
4	26	80	1.538
4	27	80	1.526
6	27	80	1.582
1	18	81	1.768
1	19	81	1.680
8	4	81	1.473
8	7	81	1.528
9	12	81	1.584
10	3	81	1.428
10	7	81	1.488
10	25	81	1.382
1	30	82	1.513
1	31	82	1.488
2	1	82	1.447
2	2	82	1.464
5	4	82	1.413
5	5	82	1.535
2	15	83	1.652
2	25	83	1.468

Notes to Table III.

Column	Description
1	Source name
2	1979 catalog flux
3	Computed mean flux $\langle S \rangle$, in Jy.
4	Standard deviation σ_s , in Jy.
5	Number of observations.
6, 7	Coefficients of linear fit: $S(Jy) = A + B(year - 1980)$.
8	$100\sigma_s/\langle S \rangle$.
9	$100\chi/\langle S \rangle$.

SOURCE	F (Jy)	(S) (Jy)	σ (Jy)	N	A (1980 Jy)	B (Jy/yr)	100σ/(S)	100X/(S)
3C2	1.41	1.44	0.078	8	1.46	-0.01	5.40	5.80
0007+171	0.93	0.94	0.031	7	0.98	-0.04	3.27	1.97
0019-000	1.05	1.07	0.067	11	1.11	-0.03	6.27	6.35
3C12	0.82	0.83	0.039	11	0.85	-0.01	4.64	4.82
3C17	2.72	2.54	0.137	11	2.52	0.01	5.41	5.68
0048-097	1.33	1.32	0.224	11	1.38	-0.05	16.89	17.63
3C26	0.61	0.58	0.058	11	0.55	0.02	9.99	10.18
0056-001	1.46	1.34	0.088	10	1.40	-0.05	6.56	6.43
0106+013	3.67	4.27	0.166	11	4.31	-0.03	3.88	4.05
0112-017	1.16	1.17	0.114	21	0.94	0.12	9.72	5.85
3C42	0.84	0.95	0.046	21	0.90	0.03	4.83	4.49
3C45		0.75	0.083	20	0.74	0.00	11.12	11.42
3C55		0.65	0.060	20	0.62	0.01	9.21	9.33
NRAO91		3.41	0.176	16	3.31	0.05	5.17	5.30
3C63	1.09	0.81	0.061	20	0.87	-0.03	7.56	7.13
0229+132		2.02	0.092	15	2.08	-0.03	4.59	4.67
0234+285		2.67	0.233	17	1.90	0.34	8.74	6.20
3C79		1.32	0.163	11	1.20	0.07	12.37	11.52
CTA21		3.33	0.765	11	2.85	0.22	22.98	23.85
0319+121	1.10	1.04	0.077	14	1.10	-0.03	7.35	6.96
3C89		0.70	0.059	21	0.76	-0.03	8.41	7.53
CTA26	2.73	2.65	0.236	20	2.77	-0.06	8.89	8.93
3C93	0.89	0.90	0.055	20	0.93	-0.02	6.09	6.06
0400+258	1.79	1.28	0.044	21	1.29	0.00	3.40	3.47
0406+121	1.16	0.94	0.124	21	1.11	-0.09	13.10	10.90
0420-014	3.10	3.72	0.280	10	3.67	0.03	7.52	7.94
3C120	4.91	3.88	0.354	11	3.81	0.05	9.12	9.55
3C132	1.05	1.24	0.050	12	1.19	0.03	4.03	3.33
3C133	2.16	2.36	0.127	11	2.23	0.08	5.39	4.77
3C138		4.33	0.202	12	4.12	0.12	4.66	4.13
0528+134	2.47	4.09	0.281	12	3.72	0.22	6.87	5.38
0531+194		2.53	0.128	12	2.49	0.02	5.08	5.29
0548+165		1.03	0.045	12	1.01	0.01	4.39	4.49
0605-085	2.78	3.22	0.279	13	2.99	0.13	8.65	8.29
3C161	6.73	7.10	0.396	11	7.12	-0.02	5.58	5.87
3C165		0.81	0.026	12	0.81	0.00	3.22	3.38
3C175.1	0.56	0.60	0.028	11	0.63	-0.02	4.67	4.27
0723-008		2.03	0.053	6	2.18	-0.07	2.61	2.08
0736+017	2.13	1.77	0.275	11	1.39	0.24	15.53	10.89
0742+103	3.84	3.62	0.154	10	3.77	-0.09	4.24	4.18
3C190	0.82	0.79	0.024	15	0.80	-0.01	3.05	3.08
0820+225	1.61	1.70	0.061	20	1.72	-0.01	3.60	3.69
0823+033	1.03	1.11	0.153	21	0.74	0.23	13.81	5.81
3C207	1.44	1.27	0.121	19	1.25	0.01	9.55	9.82
OJ287	2.78	2.89	0.430	20	2.19	0.44	14.86	11.83
3C213.1	0.84	0.91	0.035	22	0.87	0.03	3.84	3.54
3C226	0.64	0.54	0.018	11	0.55	0.00	3.31	3.48
3C228	1.14	1.16	0.040	11	1.15	0.01	3.43	3.59
OK290	1.33	1.14	0.152	21	1.51	-0.23	13.29	6.83
3C237	2.01	1.99	0.152	17	2.02	-0.01	7.64	7.87
1013+208		0.72	0.051	22	0.67	0.03	7.07	6.68
1022+194		0.74	0.071	35	0.74	0.00	9.64	9.78
3C245	1.39	1.46	0.088	38	1.40	0.04	6.06	6.02
1049+215	0.95	0.92	0.040	39	0.89	0.02	4.31	4.27
1055+018	2.77	2.84	0.238	33	2.99	-0.10	8.38	8.26
1138+015	0.93	0.93	0.074	25	0.96	-0.02	8.03	8.05
1148-001	1.85	1.76	0.102	30	1.78	-0.01	5.81	5.89
1155+251	0.86	0.93	0.052	45	0.98	0.02	5.66	5.63
1210+134		0.75	0.052	46	0.78	-0.02	6.95	6.90
3C272.1		2.64	0.138	46	2.66	-0.01	5.23	5.28
3C273		31.80	2.771	46	33.28	-0.92	8.71	8.67
3C275.1		0.92	0.057	42	0.90	0.01	6.15	6.20
3C279	13.55	11.57	1.975	27	10.28	0.89	17.06	16.76
1313+07		0.77	0.056	34	0.75	0.01	7.34	7.41
1318+113	0.77	0.73	0.045	33	0.73	0.00	6.12	6.21
3C286	7.41	7.30	0.259	33	7.24	0.04	3.55	3.59
1345+125	2.71	2.61	0.178	37	2.52	0.05	6.82	6.79
1354+195		1.54	0.103	35	1.57	-0.02	6.65	6.71
OQ208	2.93	2.68	0.099	29	2.63	0.03	3.71	3.69
3C298	1.46	1.47	0.079	29	1.50	-0.02	5.37	5.34
1434+036	1.28	1.10	0.067	27	1.10	0.00	6.07	6.18
OQ172		1.05	0.066	22	1.00	0.03	6.24	5.85
3C304		0.28	0.021	21	0.27	0.01	7.46	7.25
OR103	1.74	1.37	0.118	19	1.41	-0.03	8.61	8.66
3C317	0.87	0.77	0.048	20	0.78	-0.01	6.25	6.38
1523+033	0.68	0.61	0.038	20	0.62	-0.01	6.29	6.35
1532+016		0.66	0.049	17	0.66	0.00	7.54	7.75
1538+149		1.22	0.154	20	1.29	-0.04	12.55	12.54
3C323.1	0.92	0.78	0.033	20	0.79	-0.01	4.20	4.25
1555+001	1.23	0.80	0.128	17	0.98	-0.10	15.91	9.20
1607+268	1.58	1.55	0.069	18	1.53	0.01	4.48	4.58
1616+063	0.86	0.70	0.035	16	0.73	-0.02	4.99	4.39
3C336	0.69	0.74	0.036	18	0.74	0.00	4.90	5.05
1629+120	0.68	0.63	0.043	18	0.66	-0.01	6.73	6.55
3C342		0.42	0.016	18	0.42	0.00	3.88	3.81
1656+053		1.27	0.183	18	1.57	-0.18	14.34	4.10
1705+018		0.64	0.056	17	0.66	-0.01	8.65	8.70
3C359		0.21	0.024	16	0.23	-0.01	11.33	10.69
OT068	2.24	2.48	0.288	14	2.73	-0.17	11.61	9.71
OT081	1.58	1.34	0.344	17	1.85	-0.31	25.57	12.79
1801+01		0.95	0.067	12	0.93	0.01	7.02	7.18
1821+107	1.10	0.99	0.055	17	1.06	-0.04	5.56	3.88
1829+290	1.13	1.08	0.050	17	1.08	0.00	4.66	4.81
3C390		1.39	0.095	17	1.50	-0.07	6.79	5.09
3C394		0.71	0.032	17	0.74	-0.02	4.56	3.94
OV239.7		1.34	0.114	17	1.45	-0.07	8.50	7.23
1947+079	1.04	0.88	0.049	16	0.91	-0.02	5.63	5.25
2003-025	0.93	0.93	0.046	17	0.95	-0.01	4.98	4.97
OW-015		1.39	0.073	16	1.42	-0.01	5.24	5.36
3C411	0.87	0.81	0.043	17	0.85	-0.02	5.25	4.87
2029+121		0.61	0.112	19	0.77	-0.10	18.45	11.39
2033+18		0.33	0.020	20	0.34	0.00	5.98	6.03
3C422	3.74	0.81	0.059	15	0.86	-0.04	7.29	6.17
2049+14		0.26	0.020	16	0.28	-0.01	7.66	6.91
2113+293		1.04	0.129	17	0.93	0.08	12.35	10.70
3C433	3.74	3.58	0.160	17	3.71	-0.09	4.48	4.04
2128+048	1.97	1.88	0.097	18	1.96	-0.06	5.19	4.54
2134+004	10.47	8.89	0.484	18	9.51	-0.40	5.45	3.71
3C436	0.99	1.01	0.036	18	1.00	0.00	3.56	3.65
2148+143	0.78	0.72	0.047	18	0.74	-0.02	6.62	6.41
3C441	0.92	0.82	0.024	19	0.81	0.00	2.95	3.01
2210+016	1.02	1.02	0.085	19	1.05	-0.02	8.31	8.41
2216-038		3.91	0.501	18	3.55	0.23	12.80	11.83
3C446	3.64	3.93	0.279	17	3.68	0.17	7.09	6.12
CTA102	3.19	3.98	0.342	18	3.81	0.11	8.58	8.40
2247+140	1.03	1.05	0.061	19	1.05	0.00	5.79	5.95
3C454.3	8.69	12.61	2.946	20	7.82	2.97	23.37	8.73
3C456	0.67	0.78	0.049	20	0.77	0.01	6.23	6.29
3C459	1.36	1.24	0.063	20	1.23	0.01	5.06	5.18
2318+049	0.60	1.09	0.236	20	0.83	0.16	21.63	17.09
2328+107		0.98	0.072	20	1.01	-0.02	7.33	7.25
3C466	0.75	0.78	0.038	20	0.77	0.01	4.86	4.77
2344+092		1.53	0.098	20	1.59	-0.04	6.40	6.08