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Variability of extragalactic sources at 2.7 GHz II. Flux densities of 550 sources and further evidence for variations

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Accurate 2.7-GHz flux densities are given for 550 unresolved sources measured at the NRAO 300-ft telescope. The extensive overlap between these observations and those of other workers at 2.7 GHz is used to normalize published 2.7-GHz flux-density scales to our own. The scales are found to be in good agreement, and the derived normalization factors are used to extend our analysis of radio source variability beyond the 2-yr period of the monitoring program described in Paper I. The astronomical implications of this work are discussed in Paper III of the series.

INTRODUCTION

IN PAPER I (Kesteven, Bridle, and Brandie 1976) we described a series of precise observations of the 2.7-GHz flux densities of 365 extragalactic sources throughout the period September 1972–August 1974. This 2-yr monitoring program could fail to detect variations in some sources for a number of reasons. For example, the time scale for significant variations in some sources may be longer than two years, some sources may have been unusually quiescent during the monitoring period, or some may have varied in such a way that the scatter of their flux densities is underestimated by our sampling.

In this paper we enlarge the data base from which to assess the incidence of variability at 2.7 GHz by establishing a self-consistent (not necessarily absolute) flux-density scale for 2.7-GHz measurements with a variety of telescopes. This normalization is based on a comparison of our 2.7-GHz flux densities for over 500 sources measured at the NRAO (operated by Associated Universities Inc. under contract with the National Science Foundation) 300-ft telescope with the results for the same sources obtained by other observers. Section I of this paper presents further flux densities from the 300-ft telescope which have been used in this comparison. Section II investigates the normalization of other 2.7-GHz measurements to our adopted flux-density scale, and Sec. III examines the evidence for variations within the 10-yr period covered by the various sets of 2.7-GHz flux densities taken together.

I. THE OBSERVATIONS

The observations were made with the NRAO 300-ft transit telescope at 2.7 GHz as described in Paper I, mainly during the September 1972 and June 1974 observing periods. In addition to the 365 sources in our regular monitoring program we observed 550 further sources selected from the Parkes catalogues and from a large sample of radio galaxies being mapped at 2.7 GHz with the NRAO interferometer in another observing program. These observations provide 2.7-GHz flux densities for 915 sources between about 0.1 and 10 Jy whose relative accuracy within each 10° declination strip is of order 1% or ±0.02 Jy, depending on flux density. The extensive overlap between these measurements and those of other workers at 2.7 GHz allows us to determine a self-consistent normalization of the 2.7-GHz flux densities from the major single-dish instruments which have operated at this frequency.

Table I gives our 2.7-GHz flux densities for 550 sources for which results were not given in Paper I because they were observed in less than four observing periods or because their declinations were below −10° or above +60°. Sources for which the peak flux density measured at the 300-ft telescope (beamwidth ~4.7 arcmin at 2.7 GHz) was significantly less than the integrated flux density have been excluded; this restricts the data to sources with angular sizes less than about 2 arcmin. Of the 190 flux-stable sources recognized by our internal calibration procedure (Paper I, Sec. III), 101 were used to normalize our flux-density scale to that of Kellermann *et al.* (1968) over the declination range −19° to +80°. (The normalization between −10° and +60° is based on the same 82 sources as were used in Paper I.) The errors quoted in Table I include the uncertainties in this normalization. Column 1 gives the IAU designation of the source and column 2 its "common" name from a major radio source catalogue. Column 3 gives the number of transits from which the flux density was derived and (in parentheses) the ordinal number(s) of the observing session(s) in which the measurements were made. The results from different transits have been averaged; column 4 gives the average flux density and its standard error. The exact dates of the observing sessions are listed at the end of the table.

II. FLUX-DENSITY NORMALIZATIONS

A. The Statistical Procedure

We compared our 2.7-GHz flux-density scale with those of other observers (Table II) whose estimated er-

TABLE I. 2.7-GHz flux densities measured at the 300-ft telescope.

(1) I.A.U. DESIGNATION	(2) COMMON NAME*	(3) NUMBER OF TRANSITS†	(4) FLUX DENSITY (Jy)
0000-177	PK 0000-17	17 (1→7)	1.43 ± 0.12
0003-066	NRAO 5	1 (8)	1.50 ± 0.07
0003+006	PK 0003+006	1 (8)	0.25 ± 0.03
0007+016	PK 0007+016	1 (7)	0.20 ± 0.02
0012-008	PK 0012-008	1 (7)	0.14 ± 0.03
0017+257	PK 0017+25	1 (1)	0.66 ± 0.03
0017+200	GC 0017+20	1 (1)	0.39 ± 0.03
0017+154	3CR 9	3 (1,8)	0.98 ± 0.06
0021-031	4C-03.01	2 (7)	0.26 ± 0.02
0031+138	WK 17	3 (7)	0.12 ± 0.01
0031+010	PK 0031+01	1 (7)	0.39 ± 0.02
0035+121	4C 12.05	1 (7)	0.71 ± 0.02
0040+517	3CR 20	3 (5→7)	6.53 ± 0.18
0040+017	PK 0040+017	1 (7)	0.20 ± 0.02
0040+064	PK 0040+06	1 (7)	0.21 ± 0.02
0042+133	PK 0042+13	2 (1)	0.81 ± 0.03
0043+000	PK 0043+000	2 (7)	0.27 ± 0.02
0043-003	PK 0043-003	2 (4,7)	0.12 ± 0.02
0052+681	3CR 27	10 (1,2,4→8)	4.36 ± 0.12
0052+011	PK 0052+011	2 (7)	0.09 ± 0.02
0055+265	PK 0055+26	2 (7)	1.08 ± 0.06
0100+256	PK 0100+25	3 (7)	0.55 ± 0.01
0107+562	4C 56.02	2 (3,7)	1.29 ± 0.02
0108+258	4C 25.04	1 (7)	0.29 ± 0.02
0109+224	GC 0109+22	3 (1,3,8)	0.34 ± 0.05
0109+144	PK 0109+14	2 (1)	0.72 ± 0.02
0115+027	3C 37	1 (1)	0.84 ± 0.05
0117-155	3C 38	11 (1→8)	2.74 ± 0.23
0118+034	3C 39	1 (1)	0.55 ± 0.03
0124+189	4C 18.06	1 (7)	0.92 ± 0.02
0124+089	PK 0124+09	4 (1,7)	1.04 ± 0.03
0128+062	3CR 44	3 (1,7)	0.67 ± 0.02
0130-171	PK 0130-17	11 (1→8)	0.89 ± 0.09
0131-001	PK 0131-00	1 (7)	0.60 ± 0.03
0132-055	4C 05.05	1 (7)	0.33 ± 0.03
0133+206	3CR 47	5 (1,7,8)	2.02 ± 0.04
0134+299	B2 0134+29	1 (1)	0.74 ± 0.03
0137-102	PK 0137-10	1 (7)	0.63 ± 0.04
0140+387	3C 51	1 (7)	0.19 ± 0.02
0143+278	4C 27.05	1 (7)	0.26 ± 0.02
0147+187	GC 0147+18	3 (2,4,8)	0.68 ± 0.07
0153+032	PK 0153+03	1 (1)	0.40 ± 0.03
0157+011	PK 0157+01	1 (1)	0.35 ± 0.03
0158+293	4C 29.05	2 (7)	0.71 ± 0.02
0158+183	PK 0158+18	1 (1)	0.58 ± 0.03
0159-117	3C 57	7 (1→4,7,8)	2.00 ± 0.10
0200-063	4C-06.07	2 (7)	0.12 ± 0.02
0201+113	OD 101	1 (7)	1.35 ± 0.03
0202-172	PK 0202-17	6 (1→5,7)	1.46 ± 0.13
0203+052	PK 0203+05	1 (7)	0.14 ± 0.02
0207+095	PK 0207+09	3 (1,4)	0.70 ± 0.02
0210+120	4C 12.11	1 (1)	0.15 ± 0.02
0211+055	PK 0210+05	2 (1)	0.31 ± 0.03
0213-026	PK 0213-026	2 (3)	0.51 ± 0.03
0213-132	3C 62	5 (7)	2.89 ± 0.12
0214+108	PK 0214+10	1 (1)	0.68 ± 0.03
0215+026	PK 0215+02	2 (1)	0.36 ± 0.02
0217+017	PK 0217+01	2 (7)	0.35 ± 0.02
0218+111	PK 0218+11	1 (1)	0.74 ± 0.03
0221+067	4C 06.11	1 (7)	0.75 ± 0.03
0222-008	PK 0222-00	3 (7)	0.66 ± 0.03
0225+368	4C 36.04	2 (7)	0.19 ± 0.02
0229+352	4C 35.05	2 (7)	0.37 ± 0.01
0235+272	4C 27.09	1 (7)	0.26 ± 0.02
0238-084	NGC 1052	1 (7)	0.80 ± 0.05
0239+322	B2 0239+32	1 (7)	0.44 ± 0.02
0245+297	B2 0245+29	2 (7)	0.23 ± 0.03
0246-135	PK 0246-13	1 (4)	0.64 ± 0.04
0248+059	PK 0248+05	5 (1)	0.49 ± 0.03
0251+188	PK 0251+18	1 (1)	0.30 ± 0.02
0252+027	PK 0252+02	1 (4)	0.41 ± 0.02
0253+133	PK 0253+13	1 (7)	0.50 ± 0.02
0255+133	PK 0255+13	1 (7)	0.25 ± 0.02
0258+356	B2 0258+35B	1 (7)	0.37 ± 0.02
0300+470	OE 400	2 (5,7)	2.32 ± 0.11
0300+276	4C 27.10	1 (7)	0.29 ± 0.02
0300+162	3CR 76.1	4 (7)	1.82 ± 0.03
0309+390	4C 39.11	2 (7)	1.13 ± 0.02
0317-172	PK 0317-17	1 (7)	0.62 ± 0.07
0323+208	AO 0323+20	17 (1,2,4→8)	0.18 ± 0.02
0324+119	PK 0324+11	2 (1)	0.63 ± 0.04
0331+391	4C 39.12	1 (7)	0.72 ± 0.02
0332+078	OE 053	2 (1,8)	0.72 ± 0.03
0348+170	PK 0348+171	2 (7)	0.42 ± 0.02
0349+212	PK 0349+21	1 (7)	0.36 ± 0.02
0349+184	PK 0349+18	1 (1)	0.23 ± 0.02
0352+124	PK 0353+12	1 (1)	0.38 ± 0.02
0353+188	PK 0353+18	2 (1)	0.56 ± 0.02
0353+129	4CT 12.17	1 (1)	0.42 ± 0.02
0353+027	PK 0353+027	4 (7)	0.45 ± 0.02
0354-030	4C-03.15	2 (7)	0.34 ± 0.03
0356+143	3C 96	1 (1)	0.62 ± 0.03
0358+004	3CR 99	1 (1)	0.96 ± 0.04
0359+193	NRAO 155	3 (7)	0.46 ± 0.01
0400+258	DW 0400+25	1 (7)	1.61 ± 0.03
0404+428	3CR 103	2 (7)	2.43 ± 0.04
0405-123	PK 0405-12	8 (1→8)	2.42 ± 0.11
0408+170	PK 0408+17	1 (1)	0.58 ± 0.02
0409+229	3C 108	2 (1,7)	0.82 ± 0.02
0417+151	PK 0417+15	2 (1)	0.70 ± 0.03
0421+213	PK 0421+21	1 (7)	0.60 ± 0.02
0421+019	PK 0421+019	1 (7)	0.84 ± 0.03
0421+003	PK 0421+00	2 (1,7)	0.96 ± 0.03
0423+047	PK 0423+04	1 (1)	0.68 ± 0.03
0425+177	PK 0425+17	1 (1)	0.51 ± 0.04
0428+011	PK 0428+01	1 (1)	0.84 ± 0.04
0428+005	NGC 1587	3 (7)	0.11 ± 0.01
0439+012	3CR 124	1 (1)	0.54 ± 0.03
0442+026	PK 0442+02	3 (1)	0.59 ± 0.03
0449-175	PK 0449-17	1 (7)	0.55 ± 0.07
0457+024	PK 0457+024	1 (7)	1.65 ± 0.06
0458+014	PK 0458+01	1 (7)	0.53 ± 0.03
0504+030	PK 0505+03	2 (7)	0.75 ± 0.03
0507+290	4C 29.17	2 (1)	1.09 ± 0.02
0516+276	B2 0516+27A	1 (7)	1.16 ± 0.03
0521+077	PK 0521+07	2 (7)	0.45 ± 0.02
0530+040	PK 0530+04	1 (7)	1.19 ± 0.04
0532+100	PK 0532+10	1 (1)	0.50 ± 0.02
0533-120	PK 0533-12	2 (7)	1.00 ± 0.08
0538+474	4C 47.16	8 (5→7)	1.52 ± 0.03
0553+279	AO 0553+27	1 (1)	0.13 ± 0.03
0600-131	PK 0600-13	5 (7)	0.76 ± 0.04
0602+477	4C 47.19	2 (7)	0.27 ± 0.01
0616+136	4C 13.32	3 (3,4)	1.25 ± 0.03
0619+266	B2 0619+26	2 (7)	0.14 ± 0.02
0621+400	3C 159	1 (7)	1.23 ± 0.03
0623+264	3C 160	3 (7)	0.95 ± 0.03
0632+263	PK 0632+26	17 (1,4,7)	0.52 ± 0.02
0642+295	4C 29.24	3 (1,7,8)	0.92 ± 0.03
0648+275	B2 0648+27	1 (7)	0.10 ± 0.02
0649+485	4C 48.18	1 (7)	0.29 ± 0.02
0652+426	4C 42.22	1 (7)	0.66 ± 0.02
0655+699	4C 69.10	1 (1)	1.07 ± 0.05
0702+749	3CR 173.1	2 (8)	1.36 ± 0.09
0704+351	4C 35.16	1 (7)	0.32 ± 0.02
0706+261	AO 0706+26	11 (1,7)	0.68 ± 0.01
0710+439	OI 417	2 (1)	2.00 ± 0.05
0710+118	3CR 175	6 (1,2,8)	1.25 ± 0.03
0712+534	4C 53.16	2 (7)	0.92 ± 0.02
0714+286	4C 28.18	2 (7)	0.56 ± 0.01
0718-007	PK 0718-00	6 (4,7)	0.61 ± 0.02
0721+161	PK 0721+16	2 (1,7)	0.77 ± 0.04
0722+300	B2 0722+30	2 (7)	0.10 ± 0.01
0723+679	3C 179	11 (1→8)	1.72 ± 0.07
0723+106	PK 0723+10	1 (1)	0.68 ± 0.03
0723-036	PK 0723-036	1 (7)	0.32 ± 0.02
0724-019	3CR 180	1 (7)	1.65 ± 0.06
0727+153	PK 0727+15	1 (1)	0.92 ± 0.03
0733+705	3CR 184	6 (1,2,6→8)	1.26 ± 0.07
0733+291	4C 29.25	1 (7)	0.39 ± 0.02

TABLE I (*continued*)

(1) I.A.U. DESIGNATION	(2) COMMON NAME*	(3) NUMBER OF TRANSITS†	(4) FLUX DENSITY (Jy)
0742+318	B2 0742+31	3 (3,5,6)	1.09 ± 0.03
0745-191	PK 0745-19	1 (7)	1.12 ± 0.11
0745+241	OI 275	2 (7)	0.68 ± 0.02
0746+285	4C 28.19	1 (7)	0.39 ± 0.02
0746+247	AO 0746+24	2 (1)	0.42 ± 0.03
0747-000	PK 0747-00	2 (7)	0.34 ± 0.03
0752+342	B2 0752+34	1 (7)	0.10 ± 0.02
0752-026	PK 0752-027	4 (7)	0.45 ± 0.02
0753+023	PK 0753+02	2 (1)	0.45 ± 0.03
0756+377	BDFL 0756+377	1 (1)	0.85 ± 0.03
0800+346	B2 0800+34	2 (7)	0.09 ± 0.03
0801+345	B2 0801+34A	2 (7)	0.11 ± 0.01
0803-008	3C 193	1 (7)	0.78 ± 0.03
0806+350	B2 0806+35	2 (7)	0.21 ± 0.04
0809-052	PK 0809-052	2 (7)	0.38 ± 0.03
0810+077	4C 07.22	1 (7)	0.26 ± 0.02
0812-029	3CR 196.1	2 (7)	0.95 ± 0.04
0813+379	4C 38.24	1 (7)	0.12 ± 0.02
0816+526	4C 52.18	3 (5,6,7)	1.23 ± 0.02
0817+183	PK 0817+18	2 (1)	0.60 ± 0.02
0818+472	3CR 197.1	1 (8)	1.01 ± 0.03
0818+179	PK 0818+17	2 (1,7)	1.06 ± 0.02
0826+095	PK 0826+09	1 (1)	0.59 ± 0.04
0827+079	PK 0827+07	1 (1)	0.71 ± 0.02
0829+187	PK 0829+18	3 (1,7)	0.83 ± 0.05
0832+347	B2 0832+34	1 (7)	0.14 ± 0.02
0832+143	PK 0832+14	1 (1)	0.58 ± 0.02
0836+710	4C 71.07	2 (2,7)	3.10 ± 0.24
0836+299	B2 0836+29B	2 (7)	0.43 ± 0.01
0838+325	B2 0838+32A	1 (7)	0.43 ± 0.02
0840+299	B2 0840+29	1 (7)	0.50 ± 0.02
0844+540	NGC 2656	3 (7)	1.07 ± 0.02
0844+319	B2 0844+31B	5 (4,7)	0.69 ± 0.01
0848+229	AO 0848+22	1 (1)	0.15 ± 0.02
0850-034	PK 0850-03	1 (7)	0.76 ± 0.04
0851+142	3CR 208.1	3 (1,5,6)	1.25 ± 0.03
0853+067	PK 0853+06	2 (1)	0.20 ± 0.06
0853+291	4C 29.32	1 (7)	0.35 ± 0.02
0857-026	4C-02.37	1 (7)	0.25 ± 0.03
0858+292	3CR 213.1	2 (2)	1.27 ± 0.03
0858+187	PK 0858+18	2 (1)	0.59 ± 0.02
0859+470	4C 47.29	4 (5,6,7)	1.93 ± 0.03
0859-140	PK 0859-14	9 (1→8)	2.71 ± 0.13
0901+225	PK 0901+22	1 (1)	0.36 ± 0.02
0907-023	PK 0907-023	1 (7)	0.50 ± 0.03
0909+165	PK 0909+16	2 (1,7)	0.68 ± 0.02
0910+403	NGC 2782	1 (7)	0.10 ± 0.02
0912+211	AO 0912+21	2 (1)	0.21 ± 0.01
0913-025	PK 0913-025	6 (5,6)	0.29 ± 0.02
0914+421	NGC 2798/9	1 (7)	0.09 ± 0.02
0916+718	4CT 71.07.2	1 (7)	0.29 ± 0.04
0916+342	B2 0916+34B	1 (7)	0.12 ± 0.02
0917+181	PK 0917+18	2 (1,7)	0.55 ± 0.02
0926+793	3CR 220.1	5 (1,2)	1.04 ± 0.07
0931+103	NGC 2911	2 (7)	0.12 ± 0.02
0933+045	3CR 222	1 (1)	0.31 ± 0.03
0936-041	4C-04.32	1 (4)	0.29 ± 0.03
0940+001	PK 0940+00	3 (1,7,8)	0.70 ± 0.05
0942+171	PK 0942+17	1 (1)	0.53 ± 0.02
0943+547	4CT 54.19.1	1 (7)	0.11 ± 0.03
0944+045	4C 04.33	1 (7)	0.34 ± 0.03
0945+408	4C 40.24	1 (2)	1.31 ± 0.03
0945+003	PK 0945+003	1 (7)	0.42 ± 0.02
0950+255	PK 0950+25	2 (7)	0.47 ± 0.02
0951+699	3CR 231	4 (1,2,6,7)	5.43 ± 0.14
0952+179	AO 0952+17	1 (1)	0.92 ± 0.02
0954-064	4C-06.24	2 (7)	0.22 ± 0.02
0955+277	B2 0955+27	1 (7)	0.25 ± 0.02
0955+036	PK 0955+03	1 (1)	0.19 ± 0.04
0957+142	PK 0957+14	1 (1)	0.63 ± 0.02
0958+113	OTL 0958+113	1 (7)	0.30 ± 0.02
1000+201	PK 1000+20	1 (7)	0.67 ± 0.02
1000-043	4C-04.34	3 (7)	0.39 ± 0.02
1004+146	PK 1003+14	2 (7)	0.44 ± 0.01
1004-018	PK 1004-018	2 (6,7)	0.63 ± 0.04
1007+142	4C 14.36	1 (7)	0.64 ± 0.02
1008+467	3CR 239	1 (7)	0.70 ± 0.02
1008+013	PK 1008+013	1 (7)	0.37 ± 0.03
1012+410	4C 41.22	1 (4)	0.52 ± 0.02
1014+392	4C 39.29	2 (7)	0.84 ± 0.04
1014+153	AO 1014+15	3 (1)	0.13 ± 0.01
1016+161	AO 1016+16	2 (1)	0.11 ± 0.03
1019+222	3CR 241	5 (2)	0.74 ± 0.01
1022+204	3C 242	3 (1)	0.59 ± 0.02
1024+347	B2 1024+34B	1 (7)	0.11 ± 0.05
1028+049	4C 05.43	1 (7)	0.41 ± 0.02
1031+114	PK 1031+11	2 (1)	0.61 ± 0.02
1036+055	PK 1036+055	1 (7)	0.29 ± 0.02
1037+054	PK 1037+05	1 (7)	0.19 ± 0.02
1037+302	B2 1037+30	1 (7)	0.19 ± 0.02
1038+064	4C 06.41	3 (1,7)	1.57 ± 0.11
1040+317	B2 1040+31A	2 (7)	0.49 ± 0.02
1044-008	PK 1044-00	1 (7)	0.31 ± 0.02
1045+019	PK 1045+019	1 (7)	0.45 ± 0.02
1048+050	MLO 1048+050	2 (8)	0.21 ± 0.06
1048+002	PK 1048+00	2 (1)	0.30 ± 0.05
1049+083	PK 1049+08	1 (7)	0.23 ± 0.02
1051+035	PK 1051+035	1 (7)	0.27 ± 0.02
1102+304	B2 1102+30A	1 (7)	0.22 ± 0.02
1107+036	PK 1107+036	1 (7)	0.33 ± 0.02
1108+411	4C 41.23	1 (7)	0.57 ± 0.02
1108+272	NGC 3563	1 (7)	0.12 ± 0.04
1111+111	PK 1111+11	1 (7)	0.44 ± 0.02
1111-037	PK 1111-037	2 (7)	0.39 ± 0.02
1113+295	B2 1113+29	3 (6→8)	1.22 ± 0.02
1115+315	B2 1115+31B	1 (7)	0.18 ± 0.02
1116-051	DW 1116-05	2 (7)	0.69 ± 0.04
1116-027	3CR 255	1 (8)	0.61 ± 0.03
1118+237	3CR 256	2 (7)	0.66 ± 0.02
1118+000	PK 1118+000	1 (7)	0.42 ± 0.02
1120+057	3CR 257	1 (7)	0.90 ± 0.03
1123+203	PK 1123+203	2 (7)	0.54 ± 0.02
1126+101	PK 1126+101	3 (7)	0.33 ± 0.01
1127+005	PK 1127+005	1 (7)	0.59 ± 0.03
1127+012	PK 1127+012	2 (7)	0.46 ± 0.02
1127-145	PK 1127-14	15 (1→8)	6.43 ± 0.35
1130-037	PK 1130-037	2 (7)	0.47 ± 0.02
1132-000	PK 1137-000	1 (3)	0.78 ± 0.04
1134+015	4C 01.31	1 (1)	0.60 ± 0.03
1137+660	3CR 263	12 (1→4,6→8)	1.75 ± 0.05
1137+180	4C 17.52	1 (7)	0.77 ± 0.02
1137+123	PK 1137+12	3 (1,7,8)	0.80 ± 0.02
1138+594	4C 59.16	3 (5,7)	1.22 ± 0.02
1138+234	4C 23.28	1 (7)	0.23 ± 0.02
1139+188	PK 1139+18	2 (7)	0.39 ± 0.02
1140+217	PK 1140+21	1 (7)	0.39 ± 0.02
1140+303	B2 1140+30B	1 (7)	0.27 ± 0.02
1145+079	MLO 1145+079	3 (7)	0.19 ± 0.02
1146+595	NGC 3894	1 (7)	0.49 ± 0.02
1148+366	B2 1148+36A	1 (7)	0.30 ± 0.02
1150+227	4C 22.32	1 (7)	0.15 ± 0.02
1151+295	B2 1151+29	1 (7)	0.89 ± 0.02
1152-011	PK 1152-011	1 (7)	0.08 ± 0.02
1155+557	NGC 3998	1 (7)	0.11 ± 0.02
1155+251	B2 1155+25	1 (7)	0.94 ± 0.02
1157+732	3CR 268.1	6 (1,2,8)	3.91 ± 0.26
1158+318	3CR 268.2	2 (7)	0.66 ± 0.02
1158-059	PK 1158-05	2 (7)	0.36 ± 0.02
1201+027	PK 1201+027	1 (7)	0.18 ± 0.02
1202+350	B2 1202+35	1 (7)	0.15 ± 0.02
1203+043	PK 1203+04	1 (1)	0.78 ± 0.04
1204+225	PK 1204+22	3 (7)	0.59 ± 0.01
1207-013	PK 1207-013	3 (6,7)	0.38 ± 0.03
1208+396	B2 1208+39	1 (7)	0.22 ± 0.02
1210+134	DW 1211+13	5 (1,7,8)	0.99 ± 0.02
1211+562	4CT 56.19.1	1 (7)	0.17 ± 0.02
1211+143	4C 14.46	3 (7)	0.36 ± 0.02
1213-172	PK 1213-17	9 (1→4,6→8)	1.39 ± 0.13
1216+055	MLO 1216+055	1 (7)	0.36 ± 0.02
1217+097	PK 1218+09	2 (1,7)	0.54 ± 0.02

TABLE I (*continued*)

(1) I.A.U. DESIGNATION	(2) COMMON NAME*	(3) NUMBER OF TRANSITS†	(4) FLUX DENSITY (Jy)	(1) I.A.U. DESIGNATION	(2) COMMON NAME*	(3) NUMBER OF TRANSITS†	(4) FLUX DENSITY (Jy)
1221+466	4C 46.27	2 (7)	0.19 ± 0.01	1457+321	B2 1457+32	1 (7)	0.10 ± 0.02
1222+216	PK 1222+21	1 (7)	1.05 ± 0.02	1459+718	3CR 309.1	5 (1,4,5,7)	5.47 ± 0.30
1233+168	PK 1233+16	2 (4,7)	0.80 ± 0.03	1459+217	PK 1459+217	1 (7)	0.15 ± 0.02
1233+128	NGC 4552	2 (7)	0.11 ± 0.01	1504+346	B2 1504+34	2 (7)	0.12 ± 0.01
1237+224	4C 22.36	2 (7)	0.23 ± 0.01	1504+074	WK 337	2 (7)	0.16 ± 0.01
1237-170	PK 1237-17	1 (7)	0.65 ± 0.07	1505+012	PK 1505+01	2 (1)	0.58 ± 0.06
1239+334	WK 279	1 (7)	0.08 ± 0.02	1511+263	3CR 315	3 (4,6,7)	2.26 ± 0.05
1240-059	MLO 1240-059	1 (7)	0.22 ± 0.03	1521+136	4C 13.54	2 (7)	0.17 ± 0.02
1243+336	B2 1243+33	1 (7)	0.16 ± 0.02	1521+272	B2 1521+27	1 (7)	0.21 ± 0.02
1244-112	PK 1244-11	2 (7)	0.46 ± 0.03	1525+290	B2 1525+29	2 (7)	0.11 ± 0.01
1246+095	PK 1246+09	2 (1)	0.30 ± 0.02	1528+071	MLO 1528+071	6 (4,7)	0.11 ± 0.02
1247+503	WK 301	2 (7)	0.14 ± 0.01	1529+357	3CR 320	1 (7)	0.92 ± 0.02
1248-041	MLO 1248-041	1 (4)	0.11 ± 0.03	1531+359	B2 1531+35	2 (7)	0.31 ± 0.01
1249+092	PK 1249+09	2 (4,7)	0.96 ± 0.02	1533+345	B2 1533+34A	1 (7)	0.10 ± 0.02
1249+035	PK 1249+035	1 (7)	0.55 ± 0.03	1542+348	B2 1542+34	3 (7)	0.11 ± 0.01
1250+291	5C 4.06	1 (7)	0.27 ± 0.02	1543+019	PK 1543+01	1 (4)	0.50 ± 0.03
1254+272	B2 1254+27	1 (8)	0.11 ± 0.02	1547+309	B2 1547+30	2 (7)	0.62 ± 0.02
1255+052	WK 308	1 (7)	0.19 ± 0.02	1549+628	3CR 325	8 (1,3,4,7,8)	1.88 ± 0.06
1301+382	B2 1301+38A	1 (8)	0.33 ± 0.02	1550+202	3CR 326B	2 (1)	1.24 ± 0.03
1302-035	PK 1302-035	1 (3)	0.48 ± 0.03	1601-003	PK 1601-00	1 (7)	0.46 ± 0.02
1303+366	B2 1303+36B	1 (7)	0.13 ± 0.02	1601-017	PK 1601-017	2 (7)	0.26 ± 0.02
1303+091	PK 1303+09	1 (1)	0.72 ± 0.03	1602+240	PK 1602+24	1 (7)	0.33 ± 0.02
1306+660	3C 282	3 (2,4,6)	1.11 ± 0.04	1602+178	4C 17.66	1 (7)	0.45 ± 0.02
1306-047	4C-05.56	1 (7)	0.21 ± 0.03	1603+005	PK 1603+005	2 (1)	0.63 ± 0.03
1310+058	MLO 1310+058	2 (7)	0.18 ± 0.01	1606+106	PK 1606+10	2 (1,4)	1.15 ± 0.11
1316+299	B2 1316+29	1 (7)	0.77 ± 0.03	1607+088	4C 08.47	4 (7)	0.33 ± 0.01
1316-123	NGC 5077	1 (7)	0.23 ± 0.06	1609+660	3CR 330	4 (1,3,4,7)	3.82 ± 0.21
1317+179	PK 1317+17	2 (1,2)	0.94 ± 0.02	1611+042	PK 1611+04	2 (1)	0.55 ± 0.03
1320+033	PK 1320+03	2 (1)	0.75 ± 0.03	1615+324	3CR 332	10 (1→5,7,8)	1.48 ± 0.02
1322+366	B2 1322+36B	1 (7)	0.62 ± 0.02	1615+212	3C 333	1 (1)	0.95 ± 0.04
1324-025	PK 1324-025	3 (7)	0.31 ± 0.02	1617+137	PK 1617+13	1 (1)	0.23 ± 0.03
1324+431	4C 43.28	1 (7)	0.11 ± 0.02	1619+062	4C 06.56	2 (7)	0.14 ± 0.02
1325+321	B2 1325+32	1 (7)	0.91 ± 0.02	1621+131	MLO 1621+131	4 (7)	0.27 ± 0.01
1326+310	4C 31.42	2 (7)	0.25 ± 0.01	1629+120	4C 12.59	1 (7)	1.05 ± 0.03
1328+332	B2 1328+33	3 (7)	0.19 ± 0.01	1634+628	3CR 343	10 (1→8)	2.72 ± 0.07
1332+318	B2 1332+31	1 (7)	0.37 ± 0.02	1636-031	PK 1636-03	1 (7)	0.44 ± 0.03
1333+275	B2 1333+27	1 (7)	0.48 ± 0.02	1637+626	3CR 343.1	7 (1→4,6,7)	2.28 ± 0.07
1334-127	OP-158.3	7 (1→4,6,8)	2.07 ± 0.23**	1638-025	PK 1638-025	1 (7)	1.05 ± 0.04
1341+143	PK 1341+14	3 (1)	0.65 ± 0.03	1643+134	PK 1643+13	1 (1)	0.41 ± 0.02
1342-016	PK 1342-016	7 (7)	0.23 ± 0.01	1650+024	PK 1650+024	2 (7)	0.23 ± 0.02
1345+245	PK 1345+24	1 (7)	0.20 ± 0.02	1652+397	B2 1652+39A	3 (7)	1.45 ± 0.05
1346+268	PK 1346+26	1 (7)	0.46 ± 0.02	1655+078	OS 092	1 (7)	1.40 ± 0.04
1349-016	PK 1349-01	4 (7)	0.32 ± 0.02	1657+325	B2 1657+32A	2 (7)	0.11 ± 0.01
1350+316	3CR 293	2 (7)	2.89 ± 0.04	1657+265	4C 26.51	1 (1)	0.52 ± 0.02
1350+113	4C 11.46	2 (1)	0.78 ± 0.03	1658+471	3CR 349	10 (1→8)	1.90 ± 0.03
1351+003	PK 1351+003	2 (7)	0.12 ± 0.04	1658+302	B2 1658+30	1 (7)	0.43 ± 0.02
1353+054	NGC 5363	2 (7)	0.14 ± 0.03	1704+608	3CR 351	8 (1→8)	1.92 ± 0.05
1354-152	OP-192	9 (1→7)	1.73 ± 0.17	1704+001	PK 1704+001	3 (6→8)	0.41 ± 0.02
1355+010	PK 1355+01	2 (1,7)	0.96 ± 0.04	1705+018	PK 1705+018	2 (7,8)	0.63 ± 0.03
1357+195	PK 1357+19	1 (7)	0.22 ± 0.02	1706+006	PK 1706+006	3 (5,6,8)	0.50 ± 0.04
1358+624	4C 62.22LS	10 (1→4,7,8)	2.73 ± 0.07	1707+344	B2 1707+34	5 (4,7)	0.36 ± 0.01
1401+353	B2 1401+35A	3 (7)	0.34 ± 0.01	1707-038	PK 1707-038	1 (5)	0.40 ± 0.03
1404-063	4C-06.37	1 (7)	0.26 ± 0.03	1708+196	4C 19.56	2 (7)	0.28 ± 0.01
1411+094	PK 1411+09	1 (7)	0.72 ± 0.02	1710+156	MLO 1710+156	1 (7)	0.23 ± 0.02
1412+083	4C 08.41	1 (7)	0.13 ± 0.02	1710-029	PK 1710-029	3 (6→8)	0.36 ± 0.04
1417+140	4C 14.52	2 (7)	0.14 ± 0.01	1714+219	GC 1714+21	3 (1,8)	0.58 ± 0.02
1422+268	PK 1422+26	1 (7)	0.51 ± 0.02	1717+228	PK 1717+22	1 (7)	0.98 ± 0.03
1422+202	PK 1422+20	3 (1,7,8)	1.03 ± 0.02	1721+343	B2 1721+34	2 (1,8)	1.12 ± 0.03
1424+344	B2 1424+34	1 (7)	0.17 ± 0.02	1732+160	PK 1732+16	3 (1)	0.66 ± 0.02
1426+030	PK 1426+030	3 (3,7,8)	0.39 ± 0.03	1733+798	4C 79.17	2 (8)	0.43 ± 0.03
1427-009	PK 1427-00	1 (7)	0.40 ± 0.03	1735+034	PK 1735+034	2 (1,3)	0.74 ± 0.06
1430+251	PK 1430+25	1 (7)	0.27 ± 0.02	1741+390	B2 1741+39	2 (7)	0.11 ± 0.01
1431+065	PK 1431+06	2 (1)	0.61 ± 0.02	1743+557	4CT 55.33.1	1 (7)	0.58 ± 0.02
1435+038	PK 1435+038	2 (7)	0.39 ± 0.02	1743+666	WK 386	1 (7)	0.23 ± 0.02
1437+624	OQ 663	1 (6)	1.45 ± 0.04	1746+167	4C 16.54	4 (7)	0.11 ± 0.01
1442-029	PK 1442-029	5 (7)	0.26 ± 0.01	1753+183	NGC 6500	1 (7)	0.17 ± 0.02
1443+178	4C 17.60	1 (7)	0.43 ± 0.02	1759+485	3C 367	2 (8)	0.59 ± 0.02
1444+217	PK 1444+21	1 (7)	0.33 ± 0.02	1759+211	PK 1759+21	1 (7)	0.42 ± 0.02
1446+206	3C 304	1 (7)	0.52 ± 0.02	1800-021	PK 1800-02	1 (7)	0.89 ± 0.04
1448+634	3CR 305	6 (1,4,6→8)	1.62 ± 0.04	1807+698	3CR 371	8 (1→4,7,8)	2.34 ± 0.07
1449+069	4C 06.51	1 (7)	0.11 ± 0.02	1820+179	PK 1820+17	3 (1,7,8)	1.08 ± 0.02
1452-041	3CR 306.1	3 (2→4)	1.09 ± 0.04	1821+107	PK 1821+10	1 (1)	0.95 ± 0.03
1452-054	PK 1452-05	1 (7)	0.60 ± 0.04	1829+311	B2 1829+31	1 (7)	0.14 ± 0.02
1454+183	4C 18.39	1 (8)	0.19 ± 0.03	1830+285	4C 28.45	1 (7)	1.28 ± 0.02
1456-165	OQ-194	1 (7)	0.87 ± 0.08	1833+653	3C 383	6 (1,3→5,7,8)	1.36 ± 0.04

TABLE I (*continued*)

(1) I.A.U. DESIGNATION	(2) COMMON NAME*	(3) NUMBER OF TRANSITS†	(4) FLUX DENSITY (Jy)
1850+312	B2 1850+31	1 (4)	0.21 ± 0.02
1851+332	B2 1851+33	12 (4,7)	0.09 ± 0.01
1915-121	PK 1915-12	4 (7)	0.86 ± 0.04
1920-077	PK 1920-07	1 (4)	1.09 ± 0.06
1938-155	PK 1938-15	18 (1→3,5,7,8)	3.93 ± 0.32
1941+486	4C 48.50	1 (7)	0.23 ± 0.02
1947+079	OV 080	3 (1,7,8)	1.31 ± 0.04
1952+017	PK 1952+017	1 (7)	0.54 ± 0.03
1952+007	PK 1952+007	1 (7)	0.35 ± 0.02
1954+513	OV 591	2 (1,7)	1.50 ± 0.03
2001+003	PK 2001+00	2 (7,8)	0.24 ± 0.02
2001-023	PK 2001-023	1 (7)	0.40 ± 0.03
2004+118	PK 2004+11	1 (1)	0.58 ± 0.02
2012+010	PK 2012+01	1 (1)	0.43 ± 0.04
2018+231	PK 2018+23	3 (4,7,8)	1.33 ± 0.03
2021+614	OW 637	8 (1→5,7,8)	2.23 ± 0.06**
2021+168	PK 2021+16	2 (1)	0.56 ± 0.02
2022+119	PK 2022+11	2 (1)	0.45 ± 0.11
2022+031	PK 2022+031	1 (7)	0.51 ± 0.03
2032+107	OW 154.9	3 (7,8)	0.79 ± 0.02
2034+039	PK 2034+039	1 (7)	0.23 ± 0.02
2038-013	PK 2038-01	4 (7,8)	0.25 ± 0.03
2041+170	PK 2041+17	3 (1)	0.38 ± 0.01
2048-147	PK 2048-14	1 (8)	1.20 ± 0.06
2056+028	PK 2056+028	1 (7)	0.42 ± 0.02
2058+019	PK 2058+019	1 (7)	0.35 ± 0.02
2103+124	PK 2103+12	8 (1→4,7,8)	0.94 ± 0.02
2104+763	3CR 427.1	5 (1,2)	1.99 ± 0.12
2107-049	4C-04.81	1 (7)	0.17 ± 0.03
2111+620	3C 429	21 (1→8)	1.39 ± 0.04
2116+180	PK 2116+18	1 (1)	0.73 ± 0.02
2120+099	PK 2120+09	1 (1)	0.65 ± 0.02
2128-123	PK 2128-12	10 (1→8)	1.78 ± 0.11
2135-147	PK 2135-14	18 (1→8)	2.13 ± 0.09**
2136+141	OX 161	5 (2,4,6)	1.10 ± 0.03
2138+144	PK 2138+14	4 (1,3,8)	0.78 ± 0.02
2139+028	PK 2139+02	2 (1)	0.63 ± 0.03
2146+608	4C 60.32	1 (7)	1.63 ± 0.05
2147+289	B2 2147+28	1 (7)	0.19 ± 0.02
2148+135	PK 2148+13	1 (1)	0.57 ± 0.03
2148+121	PK 2148+12	1 (1)	0.52 ± 0.03
2149+173	PK 2149+17	1 (1)	0.97 ± 0.03
2149+069	OX 081	5 (7)	0.78 ± 0.02
2150+173	PK 2149+17	1 (7)	0.83 ± 0.02
2150-031	PK 2150-031	1 (7)	0.35 ± 0.03
2150+053	PK 2150+05	1 (1)	0.65 ± 0.03
2152+144	PK 2152+14	3 (1)	0.55 ± 0.02
2157-191	PK 2157-191	1 (7)	0.21 ± 0.04
2159+043	PK 2159+04	1 (7)	0.94 ± 0.04
2201+624	3C 440	4 (1,4,7,8)	1.68 ± 0.07
2201+044	PK 2201+04	8 (1,7)	0.62 ± 0.02
2203-188	PK 2203-18	8 (1,2,5→8)	5.11 ± 0.42
2209+081	PK 2209+08	1 (7)	1.27 ± 0.03
2211+089	PK 2211+08	3 (1)	0.51 ± 0.02
2215+020	PK 2215+02	5 (1)	0.60 ± 0.02
2217+128	PK 2217+12	2 (7)	0.45 ± 0.02
2222+052	PK 2222+05	3 (1)	0.46 ± 0.02
2226+089	PK 2226+08	2 (1)	0.43 ± 0.03
2235-143	PK 2235-14	1 (7)	0.47 ± 0.05
2239+333	B2 2239+33	5 (7)	0.54 ± 0.01
2241+180	PK 2241+18	6 (1,4)	0.50 ± 0.02
2243-032	PK 2243-03	3 (7)	0.68 ± 0.03
2248+067	PK 2248+06	2 (1,7)	1.00 ± 0.03
2250+034	PK 2250+03	1 (7)	0.25 ± 0.02
2250+003	PK 2250+003	1 (7)	0.52 ± 0.03
2251+113	PK 2251+11	1 (1)	0.88 ± 0.03
2254+167	PK 2254+16	1 (1)	0.73 ± 0.03
2254+074	OY 091	1 (7)	0.48 ± 0.02
2255+416	4C 41.45	2 (1,7)	1.44 ± 0.03
2256+017	PK 2256+017	1 (7)	0.30 ± 0.02
2258+194	PK 2258+19	4 (1)	0.47 ± 0.01
2300+086	NGC 7469	7 (4,7)	0.13 ± 0.01
2307+106	PK 2307+10	1 (1)	0.58 ± 0.03
2311+460	4C 46.47	1 (1)	1.12 ± 0.03
2313-182	PK 2313-18	1 (7)	0.90 ± 0.08
2313+124	PK 2313+12	1 (7)	0.48 ± 0.04
2313+012	PK 2313+01	2 (1)	0.60 ± 0.03
2314+160	OZ 123	2 (1,2)	0.46 ± 0.02
2319+272	B2 2319+27	3 (1,7)	0.95 ± 0.02
2323+435	WK 470	1 (8)	0.51 ± 0.02
2321+435	OZ 438	3 (6→8)	1.37 ± 0.05
2326+169	4C 16.83	1 (7)	0.35 ± 0.02
2328+107	PK 2328+10	3 (1,7,8)	1.00 ± 0.05
2329+172	PK 2329+17	2 (1)	0.51 ± 0.02
2334+085	PK 2334+08	2 (1,7)	0.61 ± 0.02
2335+031	PK 2335+03	1 (1)	0.94 ± 0.04
2337+220	3C 466	1 (7)	1.31 ± 0.03
2337+132	PK 2337+13	2 (1)	0.74 ± 0.02
2338+000	PK 2338+000	1 (7)	0.38 ± 0.02
2338+030	PK 2338+03	1 (7)	0.39 ± 0.03
2342+294	B2 2342+29	3 (7)	0.42 ± 0.02
2345+184	3C 467	2 (1,7)	0.85 ± 0.02
2349+327	4C 32.69	2 (7)	0.46 ± 0.01
2350+057	PK 2350+05	1 (7)	0.58 ± 0.02
2354-027	PK 2354-02	2 (7,8)	0.38 ± 0.03
2355-010	PK 2355-010	4 (6,8)	0.47 ± 0.03
2355-087	PK 2355-08	4 (7)	0.38 ± 0.03
2356+018	PK 2356+01	2 (7)	0.14 ± 0.02
2356+437	3CR 470	4 (4,7,8)	1.03 ± 0.02
2357+004	PK 2357+00	1 (7)	0.25 ± 0.02

* the catalogue designations are as in the "Index of Extragalactic Radio Source Catalogues" (Kesteven and Bridle, 1977).

** Possible variable, but outside declination range -10° to +60° (see Paper I, Section I).

† Dates of observing sessions:
1 1972 Sept 3-11
2 1973 Jan 17-22
3 1973 Apr 9-14
4 1973 Aug 22-27
5 1973 Nov 1-6
6 1974 Feb 1-6
7 1974 June 10-26
8 1974 Aug 1-8

TABLE II. Normalization of pre-1972 observations to our 2.7-GHz flux-density scale.

Observers	Instrument and resolution (arcmin)	Approximate epoch of observations	Number of sources in common with our data[a]	a	b
(1) Ekers 1969 (Ed.)	Parkes 210 ft 8 arcmin	1964	234 ($\delta > 0^\circ$) 58 ($\delta < 0^\circ$)	0.993 ± 0.002 0.984 ± 0.002	0.070 ± 0.003 0.044 ± 0.012
(2) Horton *et al.* 1969	Jodrell Bank 125 × 83 ft 18 × 12 arcmin	1966	172	0.962 ± 0.002	0.049 ± 0.007
(3) Kellermann *et al.* 1968	NRAO 140 ft 11 arcmin	1966	229	0.988 ± 0.001	0.017 ± 0.003
(4) Ristow 1968	Stockert 85 ft 19 arcmin	1967	202	0.992 ± 0.003	0.022 ± 0.006
(5) Wills 1975	Parkes 210 ft 8 arcmin	1967	81	1.028 ± 0.002	0.036 ± 0.005
(6) Shimmins and Day 1968	Parkes 210 ft 8 arcmin	1967	72	1.106 ± 0.003	−0.033 ± 0.005
(7) Ames 1970	Nancay reflector 11 × 2 arcmin	1968	19	1.009 ± 0.002	0.009 ± 0.017
(8) Wall 1972	Parkes 210 ft 8 arcmin	1968	166	1.032 ± 0.003	−0.015 ± 0.003
(9) Witzel *et al.* 1971	Nancay reflector 11 × 2 arcmin	1969	80	0.953 ± 0.002	0.126 ± 0.009
(10) Wills and Bolton 1969	Parkes 210 ft 8 arcmin	1969	50	0.960 ± 0.011	0.011 ± 0.006
(11) Webber and Willis 1972	NRAO 300 ft 5 arcmin	1971	39	1.043 ± 0.012	−0.005 ± 0.010

[a] Excluding known variable sources (including those found in Paper I) and sources significantly resolved at the NRAO 300-ft telescope at 2.7 GHz.

rors are similar to our own as follows. We first inspected plots of the flux densities S_{CAT} from the comparison catalogue against those S_{BKB} from our own measurements to check that a linear relationship between the two sets of measurements was plausible. Excluding known variable sources and those confused or resolved by either telescope we then carried out a least-squares linear regression in the form $S_{\mathrm{CAT}} = a \cdot S_{\mathrm{BKB}} + b$. Sources for which the flux-density pair (S_{CAT}, S_{BKB}) was significantly discrepant from the mean linear relation between the two sets of measurements were then discarded by the following procedure.

For each observed value of S_{BKB} the statistics of the regression calculation were used to estimate the expected range of S_{CAT} lying within the p% confidence limits of the regression line, setting $p = 100\ (N - \tfrac{1}{2})/N$ for a regression based on N sources. With this choice of p the expected *number* of flux densities S_{CAT} lying outside the limits was one-half, i.e., any S_{CAT} lying outside these limits by more than its own error could be considered significantly discrepant from the mean relation between the two sets of measurements. All such discrepant values were discarded and the regression calculation repeated with the reduced data set. The discard and regression procedures were repeated until the process converged. The final values of the regression constants a and b were taken as the normative relation between the comparison catalogue and our own measurements.

We emphasize that this procedure is intended to normalize other flux-density measurements to our scale in order to investigate variability outside the period of our own monitoring program. It does not determine an absolute flux-density scale for 2.7 GHz, or the absolute errors in any flux-density scale at this frequency. In particular, any declination dependence of the flux-density scale defined by the Kellermann *et al.* (1968) flux densities for our 101 chosen calibrators would remain uncorrected by this procedure.

The sources discarded during the normalization calculations are not considered variable from that evidence alone. Unusual sources of error in individual measurements could cause the discards in this procedure, whereas we adopt the view that an isolated discrepant measurement is insufficient evidence for variability. The variability of the sources is examined independently in Sec. III.

B. The Normalization Factors

Table II summarizes the results of the normalization procedure described above. The quoted errors in a and b (columns 5 and 6) are the formal standard errors from the final regression calculation for each catalogue.

The published 2.7-GHz flux-density scales are evidently in mutual agreement to within a few percent. As several of the published scales were derived from absolute flux densities of standard sources with well-measured spectra (e.g., Kellermann *et al.* 1968; Wills 1973) the good agreement suggests that our adopted flux-density scale is itself within a few percent of a true absolute scale. The results shown in Table II are also in satisfactory agreement with the assessments of the 2.7-GHz flux-density scale made by direct comparisons among the pre-1972 data by Wall *et al.* (1971), Wills (1973, 1975), and Véron *et al.* (1974). This agreement and the closeness of the normalizing factors to unity suggests that an investigation of variability using normalized flux densities from different observers at 2.7 GHz is indeed reasonable, and unlikely to encounter large systematic errors.

III. VARIABILITY WITHIN A 10-YR PERIOD

A. The Statistical Procedure

The 2.7-GHz variability of the sources within the period 1964–1974 was investigated by combining the data from our 2-yr monitoring program (Paper I) with previously published 2.7-GHz data after applying the normalization factors given in Table II. The statistical procedure used to assess source variability was that described in Paper I: The statistic

$$x^2 = \sum_{i=1}^{n} (S_i - \overline{S})^2/\sigma_i^2$$

was computed, where the S_i are the individual flux densities and the σ_i their errors, and

$$\overline{S} = \sum_{i=1}^{n} (S_i/\sigma_i^2)/\sum_{i=1}^{n} (1/\sigma_i^2).$$

x^2 was tested as χ^2 with $(n-1)$ degrees of freedom, after discarding the observation making the greatest contribution to x^2 (and correspondingly reducing n by 1). As in Paper I, we consider a source to be variable if the probability $p(x^2)$ of exceeding the observed x^2 by chance is $<0.1\%$ and "possibly" variable if $0.1\% \le p \le 1\%$.

In applying this test the error estimates made by the other 2.7-GHz observers were increased by the uncertainties in the normalization factors derived in Table II. Assigning the uncertainties in the normalization procedure entirely to the flux densities of the other observers slightly reduces the statistical weight of their results in the comparison with our own. The effect of this is to increase the conservatism of our assessment of variability when this is based on results obtained using different telescopes and observing procedures, because our variability test weights the data inversely as the squares of their assigned errors. Our assignment of the errors in this manner is significant only in the context of making a conservative assessment of source variability, and does not imply that we believe our flux-density scale to be closer to an absolute scale than that of any of the other observers.

As it is clear (e.g., Medd *et al.* 1972) that some variable sources have periods of apparent quiescence between their variations, we have not reclassified the incidence of variability in any source which we considered variable on the evidence of our 2-yr monitoring program alone. The addition of the earlier observations to the data set for 46 variable sources increased the flux-density range over which variations have been documented; these sources are listed in Table III, and the catalogues contributing the revised flux-density extrema are identified there.

TABLE III. Increased flux-density ranges for sources which varied during the 2-yr monitoring program.

Source	Flux-density range at 2.7 GHz minimum	maximum	References for original data defining extremum
0034 − 014	2.13[a]	2.70[b]	Horton *et al.* 1969[a] Ekers 1969[b]
0048 − 097	1.16[a]	2.00	Kellermann *et al.* 1968[a]
0106 + 013	0.84[a]	3.86	Ekers 1969[a]
0240 − 002	2.65[a]	3.23	Horton *et al.* 1969[a]
0312 + 100	0.84[a]	1.12	Ekers 1969[a]
0316 + 413	8.89[a]	21.47	Horton *et al.* 1969[a]
0336 − 019	0.93[a]	3.25	Ristow 1968[a]
0355 + 508	4.11[a]	5.90	Kellermann *et al.* 1968[a]
0422 + 004	0.49	1.27[a]	Wall 1972[a]
0430 + 052	3.66[a]	9.70	Ekers 1969[a]
0433 + 295	23.35	27.70[a]	Horton *et al.* 1969[a]
0440 − 003	2.47	4.63[a]	Ekers 1969[a]
0446 + 112	0.63[a]	0.99	Ekers 1969[a]
0454 + 066	0.43[a]	0.64	Ekers 1969[a]
0529 + 075	1.24	1.78[a]	Witzel *et al.* 1971[a]
0605 − 085	2.80[a]	3.92	Ekers 1969[a]
0642 + 214	1.37[a]	1.72[b]	Ristow 1968[a] Horton *et al.* 1969[b]
0723 − 008	1.94	2.93[a]	Wall 1972[a]
0814 + 425	1.51[a]	2.43[b]	Horton *et al.* 1969[a] Webber and Willis 1972[b]
0851 + 202	1.44[a]	3.58	Webber and Willis 1972[a]
1008 + 066	1.09[a]	1.46	Horton *et al.* 1969[a]
1055 + 018	2.71[a]	3.45[b]	Wills 1975[a] Ekers 1969[b]
1226 + 023	38.69[a]	44.78	Ristow 1968[a]
1354 + 195	1.54[a]	1.92	Ekers 1969[a]
1442 + 101	1.65	1.92[a]	Witzel *et al.* 1971[a]
1532 + 016	1.06[a]	1.18	Wall 1972[a]
1538 + 149	1.40	2.05[a]	Wills and Bolton 1969[a]
1548 + 056	1.86	2.76[a]	Witzel *et al.* 1971[a]
1641 + 399	5.69[a]	10.41	Ristow 1968[a]
1648 + 015	0.71[a]	0.96	Horton *et al.* 1969[a]
1741 − 038	1.75	2.88[a]	Wall 1972[a]
1749 + 096	0.75	1.72[a]	Wills and Bolton 1969[a]
1843 + 098	2.55[a]	2.90	Horton *et al.* 1969[a]
1901 + 319	2.51[a]	3.18	Ristow 1968[a]
1914 + 302	1.58	1.75[a]	Ristow 1968[a]
2037 + 511	3.69	4.75[a]	Kellermann *et al.* 1968[a]
2059 + 034	0.59[a]	0.72	Wall 1972[a]
2134 + 004	7.03	7.71[a]	Wills 1975[a]
2145 + 067	3.16	3.49[a]	Kellermann *et al.* 1968[a]
2216 − 038	1.00[a]	1.36	Kellermann *et al.* 1968[a]
2223 + 210	1.30[a]	1.87	Shimmins and Day 1968[a]
2223 − 052	4.32[a]	5.19	Kellermann *et al.* 1968[a]
2230 + 114	4.44	5.57[a]	Ekers 1969[a]
2251 + 158	10.10	12.68[a]	Ristow 1968[a]
2344 + 092	1.41	1.64[a]	Ekers 1969[a]
2352 + 495	2.00	2.27[a]	Witzel *et al.* 1971[a]

B. Further Confirmed Variables

Thirteen sources which we did not classify as variables on the evidence of the 2-yr monitoring program are considered variable on the evidence of the augmented data set. Table IV presents the normalized data for these sources, *listed in chronological order of the observations* to the extent that this can be deduced from the published literature. (The deduced epochs are listed in Table II. The epochs of our data are given at the foot of Table I.) Table IV also gives the value of x^2 computed for these sources when *no* data are discarded; the variability assessment was made with the largest contribution to x^2 removed, as discussed above.

TABLE IV. Sources whose 2.7-GHz variability is confirmed only in the augmented data set.

0100 + 146 =	0.74 ± 0.13	Ekers 1969
PK 0100 + 14	0.80 ± 0.08	Ristow 1968
$(x^2 = 25.50)$	0.58 ± 0.02	BKB-1 (This paper, Session I)
	0.64 ± 0.02	BKB-3
	0.57 ± 0.01	BKB-4
	0.50 ± 0.03	BKB-5
	0.60 ± 0.02	BKB-7
	0.54 ± 0.02	BKB-8
0122 – 003 =	1.48 ± 0.15	Ekers 1969
PK 0122 – 00	1.44 ± 0.04	Kellermann *et al.* 1968
$(x^2 = 218.78)$	1.32 ± 0.02	Wills 1975
	1.43 ± 0.03	Wall 1972
	1.21 ± 0.02	BKB-1
	1.09 ± 0.03	BKB-2
	1.04 ± 0.04	BKB-3
	1.15 ± 0.03	BKB-4
	1.06 ± 0.02	BKB-5
	1.19 ± 0.03	BKB-6
	1.16 ± 0.02	BKB-7
	1.15 ± 0.03	BKB-8
0202 + 149 =	2.95 ± 0.28	Ekers 1969
PK 0202 + 14	3.02 ± 0.05	Kellermann *et al.* 1968
$(x^2 = 261.63)$	3.00 ± 0.20	Ristow 1968
	3.99 ± 0.04	BKB-1
	3.48 ± 0.03	BKB-4
	3.49 ± 0.03	BKB-5
	3.58 ± 0.05	BKB-6
	3.57 ± 0.03	BKB-7
	3.61 ± 0.03	BKB-8
0229 + 131 =	1.44 ± 0.15	Ekers 1969
PK 0229 + 13	1.32 ± 0.04	Kellermann *et al.* 1968
$(x^2 = 66.12)$	1.27 ± 0.05	Wills 1975
	1.07 ± 0.01	BKB-1
	1.07 ± 0.02	BKB-2
	1.06 ± 0.02	BKB-3
	1.10 ± 0.01	BKB-4
	1.12 ± 0.02	BKB-5
	1.12 ± 0.02	BKB-6
	1.12 ± 0.02	BKB-7
	1.11 ± 0.01	BKB-8
0237 – 027 =	0.41 ± 0.01	Wall 1972
PK 0237 – 027	0.42 ± 0.03	BKB-1
$(x^2 = 70.84)$	0.45 ± 0.04	BKB-2
	0.32 ± 0.03	BKB-3
	0.32 ± 0.02	BKB-4
	0.31 ± 0.03	BKB-5
	0.36 ± 0.03	BKB-6
	0.33 ± 0.03	BKB-7
	0.24 ± 0.02	BKB-8
0300 + 162 =	1.54 ± 0.18	Ekers 1969
3C 76.1	2.13 ± 0.10	Horton *et al.* 1969
$(x^2 = 19.63)$	1.95 ± 0.04	Kellermann *et al.* 1968
	2.26 ± 0.20	Ristow 1968
	1.82 ± 0.03	BKB-4
0420 – 014 =	2.09 ± 0.23	Ekers 1969
PK 0420 – 01	2.17 ± 0.04	Kellermann *et al.* 1968
$(x^2 = 610.24)$	1.88 ± 0.10	Wall 1972
	1.32 ± 0.03	BKB-1
	1.24 ± 0.03	BKB-2
	1.20 ± 0.03	BKB-3
	1.13 ± 0.03	BKB-4
	1.27 ± 0.02	BKB-5
	1.21 ± 0.02	BKB-6
	1.23 ± 0.01	BKB-7
	1.19 ± 0.06	BKB-8
0518 + 165 =	6.58 ± 0.50	Ekers 1969
3C 138	6.08 ± 0.40	Horton *et al.* 1969
$(x^2 = 117.22)$	6.05 ± 0.07	Kellermann *et al.* 1968
	5.80 ± 0.20	Ristow 1968
	5.98 ± 0.03	Wills 1975
	5.69 ± 0.03	BKB-1
	5.72 ± 0.04	BKB-2
	6.11 ± 0.07	BKB-3
	5.69 ± 0.04	BKB-4
	5.75 ± 0.07	BKB-5
	5.73 ± 0.04	BKB-6
	5.79 ± 0.07	BKB-7
	5.66 ± 0.03	BKB-8
0736 + 017 =	1.74 ± 0.20	Ekers 1969
PK 0736 + 01	2.05 ± 0.04	Kellermann *et al.* 1968
$(x^2 = 123.71)$	2.10 ± 0.10	Wills 1975
	2.36 ± 0.10	Wall 1972
	2.11 ± 0.06	Witzel *et al.* 1971
	2.00 ± 0.05	BKB-1
	2.17 ± 0.03	BKB-2
	1.97 ± 0.07	BKB-3
	1.85 ± 0.07	BKB-4
	1.87 ± 0.03	BKB-5
	1.91 ± 0.03	BKB-7
	1.84 ± 0.03	BKB-8
0906 + 015 =	1.24 ± 0.17	Ekers 1969
PK 0906 + 01	1.18 ± 0.03	Wall 1972
$(x^2 = 129.76)$	1.05 ± 0.06	Witzel *et al.* 1971
	0.88 ± 0.05	BKB-1
	0.86 ± 0.03	BKB-2
	0.89 ± 0.03	BKB-3
	0.87 ± 0.03	BKB-4
	0.88 ± 0.03	BKB-5
	0.90 ± 0.02	BKB-6
	0.80 ± 0.02	BKB-7
	0.83 ± 0.03	BKB-8
1241 + 166 =	1.54 ± 0.19	Ekers 1969
3C 275.1	1.72 ± 0.30	Horton *et al.* 1969
$(x^2 = 56.42)$	1.56 ± 0.04	Kellermann *et al.* 1968
	1.54 ± 0.10	Ristow 1968
	1.58 ± 0.03	Wills 1975
	1.76 ± 0.03	BKB-1
	1.80 ± 0.03	BKB-2
	1.71 ± 0.02	BKB-3
	1.71 ± 0.03	BKB-4
	1.72 ± 0.02	BKB-5
	1.74 ± 0.02	BKB-6
	1.68 ± 0.02	BKB-7
	1.65 ± 0.02	BKB-8
1555 + 001 =	1.96 ± 0.05	Wall 1972
DW 1555 + 00	2.28 ± 0.10	Witzel *et al.* 1971
$(x^2 = 251.57)$	1.33 ± 0.08	BKB-1
	1.37 ± 0.03	BKB-2
	1.31 ± 0.03	BKB-3
	1.35 ± 0.02	BKB-4
	1.39 ± 0.03	BKB-5
	1.39 ± 0.02	BKB-6
	1.36 ± 0.04	BKB-7
	1.28 ± 0.02	BKB-8
1607 + 268 =	2.91 ± 0.05	Kellermann *et al.* 1968
PK 1607 + 26	2.92 ± 0.28	Shimmins and Day 1968
$(x^2 = 225.81)$	3.30 ± 0.03	Wills 1975
	2.05 ± 0.10	Ames 1970
	2.94 ± 0.03	BKB-1
	2.95 ± 0.03	BKB-3
	2.88 ± 0.05	BKB-4
	2.91 ± 0.03	BKB-5
	2.89 ± 0.05	BKB-6
	2.93 ± 0.02	BKB-7
	2.93 ± 0.02	BKB-8

TABLE V. Revised variability classification for "possible" variables.

Source	Other name	Paper I classification	New classification	References (see Table II for coding)
0030 + 196	3C 12	No[a]	No	1,2,3,4
0038 + 097	3C 18	No[a]	No	1,2,3,4
0055 + 300	DW 0055 + 30	No[a]	No	11
0100 + 146	PK 0100 + 14	No[a]	Yes (Table IV)	1,4
0111 + 021	PK 0111 + 021	Possibly	No	8
0122 – 003	PK 0122 – 00	Possibly[a]	Yes (Table IV)	1,3,5,8
0134 + 329	3C 48	Possibly[a]	Possibly (Table VI)	2,3,4
0202 + 149	PK 0202 + 14	Possibly[a]	Yes (Table IV)	1,3,4
0218 – 021	3C 63	Possibly	No	1,2,3,4,8
0223 + 341	4C 34.07	No[a]	No	9
0229 + 341	3C 68.1	No[a]	No	2,3,4,9
0229 + 131	PK 0229 + 13	Possibly	Yes (Table IV)	1,3,5
0237 – 027	PK 0237 – 027	Possibly[a]	Yes (Table IV)	8
0420 – 014	PK 0420 – 01	No[a]	Yes (Table IV)	1,3,8
0438 + 252	4C 25.15	No[a]	No	11
0450 + 314	3C 131	No[a]	No	2,3,4
0500 + 019	OG 003	No[a]	Possibly (Table VI)	8,9
0518 + 165	3C 138	No[a]	Yes (Table IV)	1,2,3,4,5
0732 + 332	B2 0732 + 33	No[a]	No	9
0736 + 017	PK 0736 + 01	No[a]	Yes (Table IV)	1,3,5,8,9
0741 – 063	PK 0741 – 06	No[a]	No	1,2,3,9
0742 + 103	DW 0742 + 10	Possibly[a]	Possibly (Table VI)	9
0743 – 006	PK 0743 – 006	No[a]	No	8
0811 + 131	PK 0812 + 13	No[a]	No	1
0820 + 225	PK 0820 + 22	No	Possibly (Table VI)	6,9
0824 + 294	3C 200	No[a]	No	2,3,4
0827 + 378	4C 37.24	No[a]	No	9
0838 + 133	3C 207	No	Possibly (Table VI)	1,2,3,4,5
0911 + 174	PK 0911 + 17	No[a]	No	1
0923 + 392	4C 39.25	Possibly	No	3,9
0954 + 556	4C 55.17	No[a]	Possibly (Table VI)	9
1003 + 351	3C 236	No[a]	No	2,3,4
1005 + 077	3C 237	Possibly[a]	Possibly (Table VI)	1,2,3,4,5
1049 + 215	PK 1049 + 21	Possibly[a]	No	6
1055 + 201	PK 1055 + 20	Possibly[a]	Possibly (Table VI)	6,9
1059 – 010	3C 249	Possibly[a]	No	1,2,3,4,5,8,9
1111 + 408	3C 254	No[a]	No	2,3,4
1117 + 146	PK 1117 + 14	Possibly[a]	Possibly (Table VI)	1
1138 + 015	PK 1138 + 01	No[a]	No	1,3,8
1148 – 001	PK 1148 – 00	Possibly[a]	Possibly (Table VI)	1,3,5,8,9
1218 + 339	3C 270.1	No[a]	No	3
1229 – 021	PK 1229 – 02	No[a]	Possibly (Table VI)	1,3,5,8
1241 + 166	3C 275.1	No[a]	Yes (Table IV)	1,2,3,4,5
1250 + 568	3C 277.1	No[a]	No	2,3,4
1340 + 053	PK 1340 + 05	No[a]	No	1
1419 + 419	3C 299	No[a]	Possibly (Table VI)	2,3,4
1543 + 005	DW 1543 + 00	No[a]	No	8,9
1555 + 001	DW 1555 + 00	No[a]	Yes (Table IV)	8,9
1603 + 001	PK 1603 + 00	No[a]	No	1,5,8
1618 + 177	3C 334	No[a]	No	1,2,4,5
1828 + 487	3C 380	No	Possibly (Table VI)	2,3,4
2030 + 257	3C 414	No[a]	No	1,3,4
2059 + 283	3C 426	No[a]	No	3,4
2148 + 143	PK 2148 + 14	No[a]	No	1,3
2203 + 292	3C 441	No	Possibly (Table VI)	2,3,4
2314 + 038	3C 459	Possibly	No	1,3,4,8,9
2347 – 026	PK 2347 – 02	No[a]	No	1,8

[a] indicates that variability classification in Paper I changed when most discrepant observation was excluded.

The data in Table IV for the source 1607 + 268 (= CTD 93) illustrate a severe difficulty in making a reliable assessment of source variations. The history of this source during our 2-yr monitoring program was a model of flux-density stability. The mean flux density (2.93 ± 0.02 Jy) observed by us is also in excellent agreement with the earliest 2.7-GHz observations of the source reported by Shimmins and Day (1968) and by Kellermann *et al.* (1968). The measurements by Wills (1975) and by Ames (1970) during the time between our monitoring program and these early observations both differ significantly from the mean flux density and thus suggest that 1607 + 268 was strongly variable in 1967–68 but had "relapsed" to a stable state by 1972–74. While it is possible either that the measurements by Wills and by Ames are in error, or that our series of measurements failed to detect variations due to their distribution in time, sporadic large-amplitude variability is suggested. Such variability will be extremely difficult to detect or to confirm without systematic large-scale

TABLE VI. Sources whose 2.7-GHz variability classification remains uncertain in the augmented data set.

0134 + 329 =	9.20 ± 0.30	Horton *et al.* 1969
3C 48	9.06 ± 0.10	Kellermann *et al.* 1968
(x^2 = 116.41,	9.23 ± 0.30	Ristow 1968
22.13)[a]	8.87 ± 0.07	BKB-1
	9.17 ± 0.05	BKB-2
	8.34 ± 0.08	BKB-3
	9.17 ± 0.06	BKB-4
	9.30 ± 0.08	BKB-5
	9.29 ± 0.13	BKB-6
	9.09 ± 0.08	BKB-7
	9.21 ± 0.06	BKB-8
0500 + 019 =	2.41 ± 0.05	Wall 1972
O 003	2.33 ± 0.15	Witzel *et al.* 1971
(x^2 = 45.26,	2.35 ± 0.03	BKB-1
20.67)	2.28 ± 0.07	BKB-2
	2.14 ± 0.03	BKB-3
	2.23 ± 0.02	BKB-4
	2.33 ± 0.03	BKB-5
	2.32 ± 0.03	BKB-6
	2.34 ± 0.03	BKB-7
	2.33 ± 0.02	BKB-8
0742 + 103 =	3.98 ± 0.20	Witzel *et al.* 1971
DW 0742 + 10	3.68 ± 0.04	BKB-1
(x^2 = 96.26,	3.85 ± 0.03	BKB-2
21.17)	3.82 ± 0.04	BKB-3
	3.87 ± 0.04	BKB-4
	3.84 ± 0.03	BKB-5
	3.88 ± 0.04	BKB-6
	3.87 ± 0.03	BKB-7
	4.16 ± 0.04	BKB-8
0820 + 225 =	0.93 ± 0.15	Shimmins and Day 1968
PK 0820 + 22	1.72 ± 0.06	Witzel *et al.* 1971
(x^2 = 63.00,	1.91 ± 0.03	BKB-1
23.58)	1.86 ± 0.02	BKB-2
	1.82 ± 0.06	BKB-3
	1.83 ± 0.03	BKB-4
	1.86 ± 0.02	BKB-5
	1.91 ± 0.02	BKB-6
	1.91 ± 0.02	BKB-7
	1.84 ± 0.02	BKB-8
0838 + 133 =	1.84 ± 0.21	Ekers 1969
3C 207	1.82 ± 0.10	Horton *et al.* 1969
(x^2 = 47.83,	1.78 ± 0.04	Kellermann *et al.* 1968
28.78)	1.79 ± 0.10	Ristow 1968
	1.77 ± 0.03	Wills 1975
	1.64 ± 0.03	BKB-1
	1.66 ± 0.02	BKB-2
	1.61 ± 0.02	BKB-3
	1.60 ± 0.05	BKB-4
	1.59 ± 0.03	BKB-5
	1.63 ± 0.01	BKB-6
	1.66 ± 0.02	BKB-7
	1.65 ± 0.02	BKB-8
0954 + 556 =	3.02 ± 0.15	Witzel *et al.* 1971
4C 55.17	2.72 ± 0.04	BKB-1
(x^2 = 26.04,	2.61 ± 0.03	BKB-2
18.54)	2.60 ± 0.03	BKB-3
	2.56 ± 0.03	BKB-4
	2.47 ± 0.05	BKB-5
	2.60 ± 0.03	BKB-6
	2.59 ± 0.03	BKB-7
	2.65 ± 0.03	BKB-8
1005 + 077 =	3.56 ± 0.35	Ekers 1969
3C 237	3.28 ± 0.50	Horton *et al.* 1969
(x^2 = 105.22,	3.69 ± 0.05	Kellermann *et al.* 1968
25.89)	3.50 ± 0.15	Ristow 1968
	3.54 ± 0.06	Wills 1975
	3.64 ± 0.04	BKB-1
	3.57 ± 0.03	BKB-2
	3.55 ± 0.03	BKB-3
	3.97 ± 0.04	BKB-4
	3.54 ± 0.03	BKB-5
	3.62 ± 0.03	BKB-6
	3.48 ± 0.03	BKB-7
	3.57 ± 0.03	BKB-8
1055 + 201 =	1.75 ± 0.20	Shimmins and Day 1968
PK 1055 + 20	1.68 ± 0.08	Witzel *et al.* 1971
(x^2 = 32.58,	1.42 ± 0.06	BKB-2
20.65)	1.49 ± 0.02	BKB-3
	1.45 ± 0.01	BKB-4
	1.49 ± 0.02	BKB-6
	1.55 ± 0.02	BKB-7
	1.55 ± 0.02	BKB-8
1117 + 146 =	1.54 ± 0.20	Ekers 1969
PK 1117 + 14	1.53 ± 0.11	BKB-1
(x^2 = 29.11,	1.63 ± 0.02	BKB-2
19.29)	1.53 ± 0.03	BKB-3
	1.59 ± 0.02	BKB-4
	1.64 ± 0.02	BKB-5
	1.52 ± 0.02	BKB-6
	1.57 ± 0.02	BKB-7
	1.55 ± 0.02	BKB-8
1148 − 001 =	2.70 ± 0.25	Ekers 1969
PK 1148 − 00	2.55 ± 0.04	Kellermann *et al.* 1968
(x^2 = 57.25,	2.54 ± 0.02	Wills 1975
25.54)	2.50 ± 0.04	Wall 1972
	2.48 ± 0.11	Witzel *et al.* 1971
	2.53 ± 0.06	BKB-1
	2.36 ± 0.04	BKB-2
	2.51 ± 0.05	BKB-3
	2.47 ± 0.03	BKB-4
	2.56 ± 0.03	BKB-5
	2.54 ± 0.03	BKB-6
	2.35 ± 0.03	BKB-7
	2.46 ± 0.03	BKB-8
1229 − 021 =	1.58 ± 0.19	Ekers 1969
PK 1229 − 02	1.36 ± 0.04	Kellermann *et al.* 1968
(x^2 = 36.87,	1.31 ± 0.02	Wills 1975
23.47)	1.30 ± 0.03	Wall 1972
	1.23 ± 0.03	BKB-2
	1.27 ± 0.04	BKB-3
	1.31 ± 0.02	BKB-5
	1.38 ± 0.03	BKB-6
	1.23 ± 0.03	BKB-7
	1.25 ± 0.02	BKB-8
1419 + 419 =	1.51 ± 0.10	Horton *et al.* 1969
3C 299	1.59 ± 0.04	Kellermann *et al.* 1968
(x^2 = 52.16,	1.37 ± 0.08	Ristow 1968
20.52)	1.67 ± 0.03	BKB-1
	1.59 ± 0.03	BKB-2
	1.63 ± 0.02	BKB-3
	1.78 ± 0.02	BKB-4
	1.67 ± 0.02	BKB-7
	1.66 ± 0.02	BKB-8
1828 + 487 =	10.14 ± 0.60	Horton *et al.* 1969
3C 380	9.98 ± 0.12	Kellermann *et al.* 1968
(x^2 = 46.21,	10.03 ± 0.25	Ristow 1968
22.85)	9.29 ± 0.10	BKB-1
	9.53 ± 0.09	BKB-2
	9.45 ± 0.09	BKB-3
	9.51 ± 0.11	BKB-4
	9.49 ± 0.08	BKB-5
	9.42 ± 0.08	BKB-6
	9.39 ± 0.06	BKB-7
	9.27 ± 0.05	BKB-8
2203 + 292 =	1.51 ± 0.10	Horton *et al.* 1969
3C 441	1.51 ± 0.04	Kellermann *et al.* 1968
(x^2 = 27.89,	1.71 ± 0.15	Ristow 1968
19.66)	1.42 ± 0.02	BKB-1
	1.40 ± 0.02	BKB-4
	1.36 ± 0.02	BKB-6
	1.35 ± 0.02	BKB-7
	1.43 ± 0.02	BKB-8

[a] The first value of the x^2 statistic (see text) is derived from the entire data set, the second from the data set after discarding the most discrepant observation. The variability classification is based on the *second* value of x^2.

source-monitoring programs. Our rejection of isolated discrepant measurements as evidence for variability discriminates against recognition of this class of variable, but we consider this preferable to contamination of the variability assessment by "unusual" errors.

C. "Possibly Variable" Sources

Table V summarizes the evidence from the augmented data set on 57 sources whose variability classification in Paper I was uncertain, or whose variability classification remains uncertain when the pre-1972 data are included. This Table provides a basis for estimating the significance of our "possibly variable" classification [$0.1\% \leq p(x^2) \leq 1\%$]. Of the 16 sources in Table V considered "possibly variable" on the evidence from Paper I, we expect about four in fact not to be variable (1% of 365 sources ~4 sources). Five of these 16 sources were indeed reclassified as "not variable" using the augmented data set, while four were reclassified as "definitely variable." These statistics imply that most of the "possibly variable" sources are indeed sources which vary in flux density, but with amplitudes which were small during the period spanned by these observations.

Table VI gives the normalized data for 14 sources whose variability classification at 2.7 GHz remains uncertain after the inclusion of the pre-1972 data. We expect about one-third of these sources not to be variable at 2.7 GHz; seven have been considered variable on the basis of observations at higher frequencies (see Table II of Paper I).

IV. DISCUSSION

The astronomical implications of these results are discussed fully in Paper III (Kesteven *et al.* 1977). This investigation has shown that the agreement between published flux-density scales at 2.7 GHz is good, and that examination of long-term variability of sources by combining data from different telescopes is justified at this frequency. The extension of the time baseline over which variability has been assessed has, as expected, produced evidence that further sources vary at 2.7 GHz and that the flux-density range of known variables is greater than that observed in the 2-yr monitoring program.

The agreement between the published 2.7-GHz flux-density scales also implies that the scale adopted in this paper and in Paper I is within a few percent of an absolute scale. The flux densities given for the 915 sources in these two papers should therefore provide suitable material for studies of radio source spectra.

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