

VLBA Utilization Report December 1996

Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BA018	Attridge, J.M. Homan, D.C. Roberts, D.H. Wardle, J.F.C.	Brandeis Brandeis Brandeis Brandeis	Second epoch imaging of a blazar sample		6	15	48.0
BB064	Benz, A.O. Conway, J.E. Alef, W. Gudel, M.	ETH JIVE MPIFR Paul Scherrer	Planet search via astrometry of dMe stars		3.6 With phased VLA	12	10.0
BC053	Clark, T.A. Ryan, J.W. Himwich, W.E. MacMillian, D.S. Gordon, D. Niell, A.E. Corey, B.E. Rogers, A.E.E. Eubanks, T.M. Fomalont, E.B. Walker, R.C.	NASA-GFSC NASA-GSFC NVI-GSFC NVI-GSFC Hughes Haystack Haystack Haystack USNO NRAO-CV NRAO-Socorro	NASA Space Geodesy Program: Geodetic observations for 1996		3.6	4	24.0
BC061	Conway, J. Booth, R. Diamond, P. Koribalski, B.	JIVE JIVE NRAO-Socorro ATNF	HI absorption observations of NGC 5793		20 line	30	9.0
BD037	Denn, G. Mutel, R.	Iowa Iowa	Polarized VLB jet of BL Lac		1.3, 2, 6	14	14.0
BD038	Desai, K.M. Anantharamaiah, K.R. Dhawan, V. Gothaskar, P.	NRAO-CV Raman NRAO-Socorro NCRA	Scattering of 3C279 in the solar wind		1.3, 2 With phased VLA	23	6.25
BE011	Edge, A. Jones, M. Grainge, K. Saunders, R.	Cambridge MRAO MRAO MRAO	RXJ1459+3337 - an extreme GPS quasar		1.3, 2, 6	21	9.5
BG061	Gomez, J.L. Marscher, A.P. Alberdi, A. Guirado, J.C. Marcaide, J.M.	IAA Boston ESA-LAEFF JPL Valencia	The relativistic jet in 3C 120		1.3	22	12.0
BL040	Liljestrom, T. Leppanen, K. Diamond, P. Gwinn, C.	Helsinki JIVE NRAO-Socorro Calif.-Santa Barbara	High temperature maser sources W44, W51M, W51N, W75N		1.3	28	12.0
BL041	van Langevelde, H. Beasley, A.	JIVE NRAO-Socorro	Formaldehyde absorption in Centaurus A		2, 6 line	7, 10	16.0
BR034	Roberts, D.H. Wardle, J.F.C. Ojha, R. Homan, D.C. Aller, H.D. Aller, M.F. Hughes, P.A.	Brandeis Brandeis Brandeis Brandeis Michigan Michigan Michigan	Sources with rapidly varying polarization		1.3, 2	6	24.0
BR044	Rupen, M.P. Bartel, N. Beasley, A.J. Conway, J. Bietenholz, M. Rius, A. Altunin, V. Jones, D. Graham, D. Venturi, T. Umara, G.	NRAO-Socorro York NRAO-Socorro JIVE York Barcelona JPL JPL MPIFR Bologna Bologna	VLBI imaging of supernova 1993J in M81		3.6, 6, 18 With phased VLA, EB	13	18.0
BR045	Romney, J.	NRAO-Socorro	Structural monitoring, polarization, and recombination line studies in 3C84		2	28	6
BS037	Slysh, V.I. Kogan, L.R. Kalenski, S.V. Valtts, I.E. Dzura, A.M.	Lebedev NRAO-Socorro Lebedev Lebedev Lebedev	Class I methanol masers		2	9	8.0
BS043	Swain, M.R. Lobanov, A.P.	Rochester NRAO-Socorro	VLBA observation of the core of 3C353		18 With phased VLA	1	6.0

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Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BS051	Shaffer, D.B. Kellermann, K.	Radiometrics NRAO-CV	CTD93-CD or CSO: Where is the nucleus?		1.3, 2 With VLA single antenna	29	12.0
BT024	Taylor, G. O'Dea, C.	NRAO-Socorro STScI	HI absorption in PKS 2322-123		6, 18 With phased VLA	7	12.0
BT026	Trotter, A.S. Greenhill, L.J. Moran, J.M.	CfA CfA CfA	Multi-wavelength continuum properties of nucleus of NGC 3079		2, 3.6, 6 With phased VLA	2	12.0
BU007	Ulvestad, J. Hirabayashi, H. Kobayashi, H. Fujisawa, K. Edwards, P. Preston, R. Wiercigroch, A. Murphy, D. Wietfeldt, R. Gurvits, L. Fomalont, E. Ghosh, T. Salter, C. Altschuler, D. Patnaik, A. Dewdney, P.	NRAO-Socorro ISAS ISAS ISAS ISAS JPL JPL JPL JPL JIVE NRAO-CV Arecibo Arecibo Arecibo MPIfR DRAO (Penticton)	Flat spectrum FIRST sources: snapshot VLBA and VLA survey		6	19	12.0
BW026	Wehrle, A.E. Unwin, S.C. Zook, A.C. Xu, W.	JPL JPL Pomona JPL	3C279: coordinated multiwavelength observations and evolution		1.3, 2	24	12.0
BW029	Wrabel, J.M. Ulvestad, J.S. Carilli, C.L.	NRAO-Socorro NRAO-Socorro NRAO-Socorro	Inner 30 pc of Mrk 231		1.3, 2, 3.6, 6, 18 With phased or single ant. VLA	8, 27	24.0
GM028	Marcaide, J.M. Ros, E. Alberdi, A. Diamond, P.J. Shapiro, I.I. Guirado, J.C. Preston, R.A. Jones, D. Witzel, A. Krichbaum, T.P. Schilizzi, R.T. Mantovani, F. Trigilio, C. Whitney, A.R.	Valencia Valencia ESA-LAEFF NRAO-Socorro CfA JPL JPL JPL MPIfR MPIfR JIVE Bologna Bologna Haystack	Monitoring the expansion of SN 1993J at 13 cm		13 With GO, RO, MC	9	12.0
TS009	Staff	NRAO	Tidbinilla tracking station tests with Surfsat			4, 11, 12, 17, 20, 22	43.0
VT006	Gurvits, L.	JIVE	Qualification tests for VSOP ground telescopes			14	6.0
	Staff	NRAO	Maintenance Software			4, 12, 19,	96.0 27.5

The average downtime was 3.0% (22 hours)

Actual observing time was 307.0 hours

The VLBA was scheduled 80% of the time (542.0 hours of a possible
684 hours)

Astronomical Observations = 48% (329.0 hours)

Tests and Calibrations = 25% (169.0 hours)

Maintenance = 7% (44.0 hours)

Total Number of astronomical programs was 24

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Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BA020	Aaron, S. Wardle, J. Roberts, D.H.	Brandeis Brandeis Brandeis	Twisted Jet of Mk501		3.6	2	8.0
BB041	Beasley, A. Fomalont, E.B.	NRAO-Socorro NRAO-CV	Phased-referenced superluminals		13,3.6	17	24
BB062	Boboltz, D.A. Diamond, P.J. Kemball, A.J. Claussen, M.J. Kogan, L.	VPI&SU/NRAO-Socorro NRAO-Socorro NRAO-Socorro NRAO-Socorro NRAO-Socorro	Polarization observations of OH masers in envelopes of OH/IR stars		18 with VLA single antenna	18	24.0
BC053	Clark, T.A. Ryan, J.W. Hinwich, W.E. MacMillan, D.S. Gordon, D. Niell, A.E. Corey, B.E. Rogers, A.E.E. Eubanks, T.M. Fomalont, E.B. Walker, R.C.	NASA-GFSC NASA-GSFC NVI-GSFC NVI-GSFC Hughes Haystack Haystack Haystack USNO NRAO-CV NRAO-Socorro	NASA Space Geodesy Program: Geodetic observations for 1996		3.6	25	24.0
BC058	Clark, T.A. Ryan, J.W. Ma, C. Vandenberg, N.R. Gipson, J.M. MacMillan, D.S. Hinwich, W.E. Gordon, D. Niell, A.E. Corey, B.E. Rogers, A.E.E. Eubanks, T.M. Fomalont, E. Walker, C.	NASA-GFSC NASA-GSFC NASA-GSFC NVI-GSFC NVI-GSFC NVI-GSFC NVI-GSFC Hughes Haystack Haystack Haystack USNO NRAO-CV NRAO-Socorro	CONT96: intensive geodetic VLBI observing		3.6	7, 11, 13	144.0
BC059	Coles, W.A. Rickett, B.J. Ye, S. Massey, W.	Calif.-San Diego Calif.-San Diego Calif.-San Diego Calif.-San Diego	Measurement of the solar wind speed near the sun using IPS	KLP	2, 3.6	10	3.0
BC060	Combes, F. Baudry, A. Wiklind, T. Desmurs, J.-F.	Paris Obs. Bordeaux Onsala Bordeaux	Mapping the absorption in the gravitational lens PKS 1830-211		13 line	22, 26	12.0
BE012	Edwards, P.G. Unwin, S.C. Wehrle, A.E. Weekes, T.C.	ISAS Caltech JPL CfA	MKN 421-Radio imaging of a TeV gamma ray blazar		1.3, 2, 6	21	16.0
BG053	Gwinn, C.R. Britton, M.C. Bloemhof, E.E.	Calif.-Santa Barbara Calif.-Santa Barbara Arizona	Angular broadening of a nearby, high latitude pulsar		90	5	5.0
BG061	Gomez, J.L. Marscher, A.P. Alberdi, A. Guirado, J.C. Marcaide, J.M.	IAA Boston ESA-LAEFF JPL Valencia	The relativistic jet in 3C 120		1.3	11	12.0
BH023	Hagiwara, Y. Kawabe, R. Diamond, P.J. Kameno, S. Nakai, N. Inoue, M. Kohno, K. Katagiri, S.	Graduate University Nobeyama NRAO-Socorro Nobeyama Nobeyama Nobeyama Nobeyama Nobeyama	The nuclear region of NGC 5793		18	30	8.0
BK043	Koopmans, L. deBruyn, G. Jackson, N. Fassnacht, C. Myers, S.	Groningen NFRA Jodrell Bank Caltech Pennsylvania	Structure of the gravitational lenses 1600+434		3.6 with EB	4	18.0
BL044	Lobanov, A.	NRAO-Socorro	Spectral imaging of 3C120		1.3, 2, 3.6, 6, 18	1, 2	24.0
BL045	Lister, M.L. Marscher, A.P. Gear, W.K.	Boston Boston Hawaii	Magnetic field properties near the cores of blazars		7	23	12.0

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Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BM072	Marscher, A.P. Wehrle, A.E. Xu, W.	Boston IPAC IPAC	Coordinated multi-band observations of gamma ray blazars		1.3	24	24.0
BN004	Nakai, N. Inoue, M. Hagiwara, Y. Diamond, P.	Nobeyama Nobeyama Graduate University NRAO-Socorro	H2O megamaser in the LINER galaxy IC 1481		1.3 line with phased VLA	29	11.0
BR045	Romney, J.D. Dhawan, V. Kellermann, K.I. Alef, W. Inoue, M. Kameno, S. Horiuchi, S. Gabuzda, D.	NRAO-Socorro NRAO-Socorro NRAO-CV MPIFR Nobeyama Nobeyama NAO Lebedev	Structural monitoring of 3C 84		2 with phased VLA	21	15.0
BV023	Venturi, T. Taylor, G.	Bologna NRAO-Socorro	Parsec scale Faraday rotation measure structure of 3C216		6, 18	3	11.0
VT005	Gurvits, L.	JIVE	Ground telescope qualification for VSOP observing		1.3, 6, 18	13	11.0
	Staff	NRAO	Maintenance Software				102.0 6.0

The average downtime was 3.5% (14.2 hours)

Actual observing time was 618.0 hours

The VLBA was scheduled 89% of the time (618.0 hours of a possible
696 hours)

Astronomical Observations = 58% (406.0 hours)

Tests and Calibrations = 21% (141.0 hours)

Maintenance = 10% (71.0 hours)

Total Number of astronomical programs was 19

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Progrm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BK022	Aaron, S. Roberts, D.H. Wardle, J.	Brandeis Brandeis Brandeis	Continuing polarization study of the CSS quasar 3C309.1		18 with Y1	26	16.0
BB067	Bower, G.C. Backer, D. Wright, M.	Calif.-Berkeley Calif.-Berkeley Calif.-Berkeley	Monitoring gamma ray blazar NRAO 530		1.3, 3.6	5, 7	14.0
BC051	Cotton, W.D. Feretti, L. Giovannini, G. Lara, L. Ventura, T. Marcaide, J.M.	NRAO-CV Bologna Bologna Bologna Bologna Valencia	VLBA polarization observations of NGC 315		6 with Y27	7	10.0
BC053	Clark, T.A. Ryan, J.W. Himwich, W.E. MacMillian, D.S. Gordon, D. Niell, A.E. Corey, B.E. Rogers, A.E.E. Eubanks, T.M. Fomalont, E.B. Walker, R.C.	NASA-GFSC NASA-GFSC NVI-GSFC NVI-GSFC Hughes Haystack Haystack Haystack USNO NRAO-CV NRAO-Socorro	NASA Space Geodesy Program: Geodetic observations for 1996		3.6 Scheduled as RDGE04	30	25.0
BC057	Carrara, E.A. Zensus, J.A. Abraham, Z. Lobanov, A.P.	NRAO-Socorro NRAO-CV Sao Paulo MPIFR	Parsec scale structure of the 3C273 jet: multi-frequency monitoring		1.3, 3.6, 6	6	12.0
BC059	Coles, W.A. Rickett, B.J. Ye, S. Massey, W.	Calif.-San Diego Calif.-San Diego Calif.-San Diego Calif.-San Diego	Measurement of the solar wind speed near the sun using IPS	KLP	2, 3.6	20, 21	2.0
BD038	Desai, K.M. Anantharamaiah, K.R. Dhawan, V. Gothaskar, P.	NRAO-CV Raman NRAO-Socorro NCRA	Scattering of 3C279 in the solar wind		1.3, 2	10, 12, 14	18.0
BK037	Kellermann, K. Zensus, A. Cohen, M. Vermeulen, R.	NRAO-CV NRAO-CV Caltech Caltech	Monitoring superluminal sources at 2cm		2	27	48.0
BM049	Mioduszewski, A.J. Gabuzda, D.C. Aller, H.D.	JIVE-Socorro Lebedev Michigan	Monitoring of six highly variable BL lacertae objects		1.3, 3.6	2	24.0
BM067	Mattox, J.R. Marscher, A.P. Wagner, S.	Maryland Boston Heidelberg	Gamma ray blazar 1622-297		1.3, 2	4	6.0
BS044	Satoh, S. Inoue, M. Nakai, N. Shibata, K.M. Migenes, V. Kameno, S. Fujisawa, K.	NAO NAO NAO NAO NAO NAO ISAS	Monitoring of the continuum and H2O maser emission in NGC 3079		1.3, 2 with Eb, Y27	20	15.0
BV022	Vermeulen, R.C. Cohen, M.H. Kellermann, K.I. Zensus, J.A.	Caltech Caltech NRAO-CV NRAO-CV	Two sided jets in the nearby elliptical NGC 1052		2, 6, 18	5,24	16.0
BW028	Wiklind, T. Combes, F. Conway, J.	Onsala Paris Obs. JIVE	Molecular absorption observations in gravitaional lens 0218+357		3.6 line	4	13.0
BZ017	Zensus, J.A. Lobanov, A.P. Leppanen, K.J.	NRAO-CV MPIFR JIVE	Monitoring the parsec-scale jet structure of 3C345		1.3, 2, 3.6, 6	25	14.0
GG028	Gabuzda, D.C. Kollgaard, R.I. McHardy, I.	Lebedev Penn State Southampton	BL Lacertae object spirals-true host galaxies or intervening systems		6 Correlated in Bonn	22	24.0

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Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
GM027	Marcaide, J.M. Ros, E. Alberdi, A. Diamond, P.J. Shapiro, I.I. Guirado, J.C. Preston, R.A. Jones, D. Witzel, A. Krichbaum, T.P. Schilizzi, R.T. Mantovani, F. Trigilio, C. Whitney, A.R.	Valencia Valencia ESA-LAEFF NRAO-Socorro CfA JPL JPL JPL MPIfR MPIfR JIVE Bologna Bologna Haystack	Monitoring the expansion of SN 1993J at 6 cm		6 with Eb, Nt	22	12.0
G0002	Otterbein, K. Krichbaum, T.P. Witzel, A. Wagner, S.	MPIfR MPIfR MPIfR Heidelberg	Second epoch observation of the ultraluminous quasar S2 0836+710		1.3 with EbMcOnNt	18	12.0
GW014	Leppanen, K. Valtaoja, E. Wiik, K. Schilizzi, R. Pilbratt, G.	JIVE Metsahovi Metsahovi JIVE ESTEC	Sample of 15 AGN		1.3 with EbJbMcOnNt MhSmGbY1	19	24.0
VT004	Edwards, P.	ISAS	Ground Radio Telescope tests for VSOP		1.3, 6	16	7.0
CMVA			Combined Millimeter VLBI array	KO	0.3 0.2	8, 10	35.8
	Staff	NRAO	Maintenance Software			3, 11, 17,	96.0 24.0

The average downtime was 2.5% (8.7 hours)

Actual observing time was 339.1 hours

The VLBA was scheduled 80% of the time (599.8 hours of a possible 744 hours)

Astronomical Observations = 47% (347.8 hours)

Tests and Calibrations = 21% (159.0 hours)

Maintenance = 12% (93.0 hours)

Total Number of astronomical programs was 20

VLBA Utilization Report September 1996

Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BA007	Alef, W. Preuss, E. Kellermann, K.I.	MPIFR MPIFR NRAO-CV	Superluminal motion in the lobe-dominated radio galaxy 3C390.3		1.3 with Eb	23	14.0
BB056	Blundell, K.M. Lacy, M. Beasley, A.J. Walker, R.C.	Oxford Oxford NRAO-Socorro NRAO-Socorro	Parsec scale structure of radio quiet quasars		3.6 with phased VLA	22	12.0
BC059	Coles, W.A. Rickett, B.J. Ye, S. Massey, W.	Calif.-San Diego Calif.-San Diego Calif.-San Diego Calif.-San Diego	Measurement of the solar wind speed near the sun using IPS	KLP	2, 3.6	19, 20	6.0
BD034	Dhawan, V. Kellermann, K.I. Romney, J.D.	NRAO-Socorro NRAO-CV NRAO-Socorro	3C84 at 7mm		0.7 with VLA single	3	14.0
BD037	Denn, G. Mutel, R.	Iowa Iowa	Polarized VLB jet of BL Lac		1.3, 2, 6 line	29	14.0
BF015	Fomalont, E. Bradshaw, C. Geldzahler, B.	NRAO-CV George Mason George Mason	The paralax of Sco X-1		6	14	6.0
BH020	Hagiwara, Y. Kawabe, R. Diamond, P.J. Kameno, S. Nakai, N. Inoue, M. Kohno, K.	Graduate University NAO-Nobeyama NRAO-Socorro NAO-Nobeyama NAO-Nobeyama NAO-Nobeyama NAO-Nobeyama	Newly found H2O megamaser in galaxy NGC 5793		1.3 with phased VLA	16	8.0
BK032	Kemball, A. Taylor, G. Baganoff, F. Vermeulen, A.C.S. Pearson, T. Readhead, R.	NRAO-Socorro NRAO-Socorro Calif.-Los Angeles Caltech Caltech Caltech	Intraday variables - simultaneous observations with ROSAT		6, 18	14, 16, 18, 20	48.0
BK035	Krichbaum, T.P. Alef, W. Zensus, J.A. Witzel, A.	MPIFR MPIFR NRAO-CV MPIFR	Motion in the jet and counter-jet of Cygnus A		1.3 with Eb	24	19.0
BM056	Moran, J.M. Herrnstein, J.R. Greenhill, L.J. Miyoshi, M. Inoue, M. Nakai, N. Diamond, P.J. Henkel, C.	Cfa Cfa Cfa Mitzusawa NAO-Nobeyama NAO-Nobeyama NRAO-Socorro MPIFR	The proper motions of the water vapor masers in NGC 4258		1.3 with phased VLA and Eb	21	14.0
BM058	Marvel, K.B. Claussen, M. Wootten, A. Wilking, B.	NMSU NRAO-Socorro NRAO-CV Missouri	Water masers in low luminosity YSOs		1.3 with VLA single	15	10.5
BN003	Nakai, N. Inoue, M. Miyoshi, M. Diamond, P.J.	NAO-Nobeyama NAO-Nobeyama Mitzusawa NRAO-Socorro	H2O megamaser in the seyfert galaxy NGC 5506		1.3 with phased VLA	7	10.0
BP031	Preuss, E. Alef, W. Pauliny-Toth, I.I.K. Kellermann, K.I. Gabuzda, D.	MPIFR MPIFR MPIFR NRAO-CV ASC Lebedev	Polarimetry of the FR II radio galaxy 3C111		3.6	19	15.0
BR034	Roberts, D.H. Wardle, J.F.C. Ojha, R. Homan, D.C. Aller, H.D. Aller, M.F. Hughes, P.A.	Brandeis Brandeis Brandeis Brandeis Michigan Michigan Michigan	Sources with rapidly varying polarization		1.3, 2	27	24.0
BR038	Reid, M.J. Readhead, A.C.S. Treuhaft, R. Vermeulen, R.	Cfa Caltech JPL Caltech	Trigonometric parallax to Sgr A*			1	8.0
BR040	Ratner, M.I. Bartel, N. Lebach, D.E. Lestrade, J-F. Shapiro, I.I.	Cfa York Cfa Meudon Cfa	Astrometry of HR 1099 and IM Peg for the gravity probe-b mission		3.6 with phased VLA, DSN	13	12.0

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BR041	Rupen, M.P. Bartel, N. Beasley, A.J. Conway, J. Bietenholz, M. Rius, A. Altunin, V. Jones, D. Graham, D. Venturi, T. Umana, G.	NRAO-Socorro York NRAO-Socorro JIVE-Onsala York Barcelona JPL JPL MPIFR Bologna Noto	VLBI Imaging of Supernova 1993J in M81		3.6, 6, 18 with phased VLA, Eb	1	5.0
BS029	Stocke, J. Rector, T. Gabuzda, D.	Colorado Colorado ASC Lebedev	X-ray loud BL Lacs and AGN unification		3.6	5	24.0
BW025	Walker, R.C. Fomalont, E. Staff	NRAO-Socorro NRAO-CV NRAO	VLBA Baselines - Service/test project Maintenance Software		3.6	28 5, 18, 25	24.0 180.0 18.0

The average downtime was 7% (2.8 hours)

Actual observing time was 255.5 hours

The VLBA was scheduled 86% of the time (513 hours of a possible 708 hours)

Astronomical Observations = 37% (264.5 hours)

Tests and Calibrations = 20% (143.5 hours)

Maintenance = 29% (205.0 hours)

Total Number of astronomical programs was 19

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Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BB023	Beasley, A. Conway, J. Dhawan, V. Walker, R.C. Wrobel, J.M. Patnaik, A. Muxlow, T.	NRAO-Socorro Onsala NRAO-Socorro NRAO-Socorro NRAO-Socorro MPIFR Jodrell Bank	VLBA calibrator survey		3.6	10	24.0
BB064	Benz, A.O. Conway, J. Alef, W. Guedel, M.	ETH Onsala MPIFR Paul Scherrer	Planet search via astrometry of dMe stars		3.6 with phased VLA	9	10.0
BC053	Clark, T.A. Ryan, J.W. Himwich, W.E. MacMillian, D.S. Gordon, D. Niell, A.E. Corey, B.E. Rogers, A.E.E. Eubanks, T.M. Fomalont, E.B. Walker, R.C.	NASA-GFSC NASA-GSFC NVI-GSFC NVI-GSFC Hughes Haystack Haystack Haystack USNO NRAO-CV NRAO-Socorro	NASA Space Geodesy Program: Geodetic observations for 1996		3.6 Scheduled as RDNAP, RDGT, RDWPS, RDMSA, RDGE	26, 28	50.0
BC054	Coles, W.A. Klingesmith, M. Rickett, B.J.	Calif.-San Diego Calif.-San Diego Calif.-San Diego	Measurement of solar wind speed near the sun using IPS	LP	2, 3.6	1, 2, 3	1.5
BD031	Diamond, P.J. Field, D. Kemball, A.J. Gray, M.D. Mashedor, M.R.W.	NRAO-Socorro Bristol NRAO-Socorro Bristol Bristol	Polarization observations of OH masers in star forming regions		18	2	20.0
BG045	Greenhill, L. Moran, J.M. Danchi, W.C. Bester, M.	CfA CfA Calif.-Berkeley Calif.-Berkeley	Snapshot survey of SiO maser stars at maximum and minimum luminosity		0.7 with VLA Single Antenna	11	10.0
BG047	Greenhill, L. Koekemoer, A. Gwinn, C.R. Moran, J.M. Herrnstein, J. Henkel, C. van Breugel, W. Dey, A.	CfA Mt. Stromlo Calif.-Santa Barbara CfA CfA MPIFR Lawrence Livermore Lawrence Livermore	Ultraluminous water maser emission in an early-type galaxy at 100Mpc		1.3 with phased VLA	3	6.0
BG050	Greenhill, L. Chernin, L.	CfA Calif.-Berkeley	Collimation and launch of protostellar outflows		1.3 with VLA single antenna	3	9.5
BG059	Guirado, J.C. Gomez, J.L. Marscher, A.P. Alberdi, A. Marcaide, J.M.	JPL IAA Boston ESA-LAEFF Valencia	BL Lac object 0735+178		3.6	4	12.0
BL038	Lestrade, J.F. Phillips, R.B. Jones, D.I. Preston, R.A.	Meudon Haystack JPL JPL	Search for extra solar planets by VLBI astrometry		3.6 with phased VLA	1, 12, 14	18.0
BM034	Dhawan, V.	NRAO-Socorro	GRS 1915, Target of Opportunity		13, 6, 3.6, 2	1, 4	12
BM058	Marvel, K.B. Claussen, M. Wootten, A. Wilking, B.	NMSU NRAO-Socorro NRAO-CV Missouri	Water masers in low luminosity YSOs		1.3 with VLA single antenna	16	9.0
BM063	Marscher, A.P. Gomez, J.L. Wehrle, A.E. Xu, W. Georganopoulos, M.	Boston IAA JPL-IPAC JPL-IPAC Boston	Coordinated multiband observations of blazars		1.3	7	24.0
BR038	Reid, M.J. Readhead, A.C.S. Treuhaft, R. Vermeulen, R.	CfA Caltech JPL Caltech	Trigonometric parallax to Sgr A*		0.7	29	6.0

VLBA Utilization Report August 1996

Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BRO41	Rupen, M.P. Bartel, N. Beasley, A.J. Conway, J. Bietenholz, M. Rius, A. Altunin, V. Jones, D. Graham, D. Venturi, T. Umana, G.	NRAO-Socorro York NRAO-Socorro Onsala York Barcelona JPL JPL MPIFR Bologna Noto	VLBI Imaging of Supernova 1993J in M81		3.6, 6, 18 with phased VLA, Effelsberg	31	18.0
BT023	Taylor, G. Readhead, T. Pearson, T.	NRAO-Socorro Caltech Caltech	5 compact symmetric objects from the PR sample		0.7	5	20.0
BV019	Vermeulen, R.C. Taylor, G.B. Browne, I.W.A. Henstock, D.R. Pearson, T.J. Readhead, A.C.S. Wilkinson, P.N.	Caltech NRAO-Socorro Jodrell Bank Jodrell Bank Caltech Caltech Jodrell Bank	Caltech-Jodrell snapshot survey of superluminal motion		6	17, 22	144.0
	Staff	NRAO	Maintenance Software			1, 8, 15,	92.5 30.0

The average downtime was 6% (23 hours)

Actual observing time was 359 hours

The VLBA was scheduled 75% of the time (565 hours of a possible
744 hours)

Astronomical Observations = 51% (382.0 hours)

Tests and Calibrations = 15% (115.0 hours)

Maintenance = 09% (68.0 hours)

Total Number of astronomical programs was 17

VLBA Utilization Report July 1996

Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BC053	Clark, T.A. Ryan, J.W. Himwich, W.E. MacMillian, D.S. Gordon, D. Niell, A.E. Corey, B.E. Rogers, A.E.E. Eubanks, T.M. Fomalont, E.B. Walker, R.C.	NASA-GFSC NASA-GSFC NVI-GSFC NVI-GSFC Hughes Haystack Haystack Haystack USNO NRAO-CV NRAO-Socorro	NASA Space Geodesy Program: Geodetic observations for 1996		3.6 Scheduled as RDNAP, RDGCS, RDWPS, RDGT, RDPLR	11, 22	50.0
BG050	Greenhill, L. Chernin, L.	CfA Calif.-Berkeley	Collimation and launch of protostellar outflows		1.3 With VLA single antenna	5	8.0
BG056	Garrett, M.A. Patnaik, A.R. Nair, S. Porcas, R.W.	Jodrell Bank MPIFR Jodrell Bank MPIFR	VLBA 15 GHz and 43 GHz multi-epoch observations of 1830-211		2	14	9.5
BK037	Kellermann, K. Zensus, A. Cohen, M. Vermeulen, R.	NRAO-CV NRAO-CV Caltech Caltech	Monitoring superluminal sources at 2cm		2	10	24.0
BL027	Lestrade, J.-F. Phillips, R.B. Jones, D.L. Preston, R.A.	Meudon Haystack JPL JPL	Astrometric monitoring of Sigma2 Cr8		3.6 with phased VLA	28	12.0
BL037	Lobanov, A.P. Swain, M.R.	NMIMT Rochester	Compact emission in lobe dominated quasars		18	13	6.0
BL038	Lestrade, J.F. Phillips, R.B. Jones, D.I. Preston, R.A.	Meudon Haystack JPL JPL	Search for extra solar planets by VLBI astrometry		3.6 with phased VLA	1, 11	13.0
BM058	Marvel, K.B. Claussen, M. Wootten, A. Wilking, B.	NMSU NRAO-Socorro NRAO-CV Missouri	Water masers in low luminosity YSOs		1.3 with VLA single antenna	4, 26	17.0
BM060	Menten, K.M. Reid, M.J.	CfA CfA	Proper motions of SiO masers in the central parsec of the galaxy		0.7 with VLA single antenna	13	6.0
BP031	Preuss, E. Alef, W. Pauliny-Toth, I.I.K. Kellermann, K.I. Gabuzda, D.	MPIFR MPIFR MPIFR NRAO-CV Lebedev	Polarimetry of the FR II radio galaxy 3C111		3.6	6	15.0
BR034	Roberts, D.H. Wardle, J.F.C. Ojha, R. Homan, D.C. Aller, H.D. Aller, M.F. Hughes, P.A.	Brandeis Brandeis Brandeis Brandeis Michigan Michigan Michigan	Sources with rapidly varying polarization		1.3, 2	27	24.0
BS034	Salter, C.J. Salgado, J.F. Ghosh, T. Manoharan, P.K. Junor, B.	Arecibo Michigan Arecibo TIFR New Mexico	Scattering in the range $l=30$ to $l=75$		18, 90	9	7.0
BT021	Tingay, S.J. Jauncey, D.L. Reynolds, J.E. Tzioumis, A.K. Preston, R.A. Meier, D.L. Jones, D.L. Murphy, D.W. Lovell, J.E.J. McCulloch, P.M. Costa, M.E.	Mt. Stromlo ATNF ATNF ATNF JPL JPL JPL JPL Tasmania Tasmania Tasmania	Short time scale monitoring of Centaurus A at 8.4 GHz		3.6	1	10.0
BT022	Taylor, G. Vermeulen, R.	NRAO-Socorro Caltech	Measuring absolute motions in the Bi-Directional Jets of 1946+708		2, 3.6	7	14.0
BW027	Wilkinson, P. Augusto, P. Browne, I.	Jodrell Bank Jodrell Bank Jodrell Bank	Resolved flat spectrum radio sources		6 with VLA single antenna	25	12.0
	Staff	NRAO	Maintenance Software			3, 12, 18,	265.5 23.5

VLBA Utilization Report June 1996

Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BB023	Beasley, A. Conway, J. Dhawan, V. Walker, C. Wrobel, J.M. Patnaik, A. Muxlow, T.	NRAO-Socorro JIVE-Onsala NRAO-Socorro NRAO-Socorro NRAO-Socorro MPIFR Jodrell Bank	VLBA calibrator survey		3.6	7	24.0
BB056	Blundell, K.M. Lacy, M. Beasley, T.J. Walker, R.C.	Oxford Oxford NRAO-Socorro NRAO-Socorro	Parsec scale structure of radio quiet quasars		3.6	9, 15	24.0
BC053	Clark, T.A. Ryan, J.W. Himwich, W.E. MacMillian, D.S. Gordon, D. Niell, A.E. Corey, B.E. Rogers, A.E.E. Eubanks, T.M. Fomalont, E.B. Walker, R.C.	NASA-GFSC NASA-GSFC NVI-GSFC NVI-GSFC Hughes Haystack Haystack Haystack USNO NRAO-CV NRAO-Socorro	NASA Space Geodesy Program: Geodetic observations for 1996 - Scheduled as RD GEO2		13, 3.6 with geodetic stations	14	24.0
BC055	Colbert, E. Roy, A. Ulvestad, J. Wilson, A.S. Norris, R.	STScI NRAO-Socorro JPL Maryland ATNF	Radio structure of Seyfert nuclei on parsec scales		2, 6, 18	1	20.0
BC056	Carilli, C. Menten, K. Claussen, M. Reid, M. Rupen, M.	NRAO-Socorro Cfa NRAO-Socorro Cfa NRAO-Socorro	Imaging the pc-scale structure in molecular clouds at z=0.89		3.6	11	9.0
BC057	Carrara, E.A. Zensus, J.A. Abraham, Z. Lobanov, A.P.	NRAO-Socorro NRAO-CV Sao Paulo NMIMT	Parsec scale structure of the 3C273 jet: multi-frequency monitoring		1.3, 3.6, 6	6	12.0
BE010	Eubanks, T.M. Matsakis, D.N. Fomalont, E. Beasley, T. Corey, B.E. Shapiro, I.I.	USNO USNO NRAO-CV NRAO-Socorro Haystack Cfa	Interferometric test of general relativity using the VLBA at 2 cm		2	20	48.0
BG050	Greenhill, L. Chernin, L.	Cfa Calif.-Berkeley	Collimation and launch of protostellar outflows		1.3 with VLA single antenna	2	8.0
BH019	Hirabayashi, H. Fomalont, E.B.	ISAS NRAO-CV	Prelaunch observations of the VSOP survey of bright AGN		6	5	24.0
BH021	Hough, D.H. Readhead, A.C.S.	Trinity Caltech	Lobe-dominated superluminal quasar 3C245		2, 3.6, 6	22	9.0
BJ024	Jauncey, D.L.	CSIRO	VLA and VLBA Target of Opportunity Obs. of PKS 0405-385		1.3, 3.6	18	7
BK034	Krichbaum, T.P. Britzen, S. Witzel, A. Zensus, J.A.	MPIFR MPIFR MPIFR NRAO-CV	Monitoring of 0528+134 after a mm outburst		1.3	28	15.0
BK041	Kemball, A.J. Porcas, R.W. Patnaik, A.R.	NRAO-Socorro MPIFR MPIFR	VLBI polarimetry of the gravitational lens system 0218+357		1.3, 2	10	12.0
BK042	Kellermann, K.I. Zensus, J.A. Gurvits, L.I. Vermeulen, R.C.	NRAO-CV NRAO-CV JIVE Caltech	Seven high redshift quasars		2	12	26.0
BL033	Lundgren, S.C. Foster, R. Waltman, E.B. Hummel, C.A.	NRL NRL NRL USNO	Mapping the new gamma ray blazar 2EG0432+2910		1.3, 2, 3.6, 6	23	13.0
BL037	Lobanov, A.P. Swain, M.R.	NMIMT Rochester	Compact emission in lobe dominated quasars		18	15	6.0
BM051	Marr, J. Crawford, F. Strauss, M.A.	Union MIT Princeton	GPS sources 0108+388		1.3, 3.6, 6, 18	24	15.0
BM060	Menten, K.M. Reid, M.J.	Cfa Cfa	Proper motions of SiO masers in the central parsec of the galaxy		0.7 with VLA single antenna	15	6.0

VLBA Utilization Report June 1996

Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BS038	Snellen, I. Schilizzi, R.T. de Bruyn, A.G. Miley, G.K. van Langevelde, H.J.	Leiden JIVE NFRA Leiden JIVE-Socorro	Faint GPS sources		2	29	24.0
BS040	Sykes, C.M. Wilkinson, P.N. Browne, I.W.A. Jackson, N.J. Nair, S. Myers, S. de Bruyn, G. Fassnacht, C.D. Readhead, A.C. Pearson, T.J. Koopmans, L.	Jodrell Bank Jodrell Bank Jodrell Bank Jodrell Bank Jodrell Bank Pennsylvania NFRA Caltech Caltech Caltech Groningen	Gravitational lens J1934+504		18 with VLA single antenna	25	15.0
BT021	Tingay, S.J. Jauncey, D.L. Reynolds, J.E. Tzioumis, A.K. Preston, R.A. Meier, D.L. Jones, D.L. Murphy, D.W. Lovell, J.E.J. McCulloch, P.M. Costa, M.E.	Mt. Stromlo ATNF ATNF ATNF JPL JPL JPL JPL Tasmania Tasmania Tasmania	Short time scale monitoring of Centaurus A at 8.4 GHz		3.6	1	7.0
BW026	Wehrle, A.E. Unwin, S.C. Zook, A.C. Xu, W.	JPL-IPAC Caltech Pomona JPL-IPAC	3C279: coordinated multiwavelength observations and evolution		1.3, 2	9	12.0
GM027	Marcaide, J.M. Ros, E. Alberdi, A. Diamond, P.J. Shapiro, I.I. Guirado, J.C. Preston, R.A. Jones, D. Witzel, A. Krichbaum, T.P. Schilizzi, R.T. Mantovani, F. Trigilio, C. Whitney, A.R.	Valencia Valencia ESA-LAEFF NRAD-Socorro Cfa JPL JPL JPL MPIFR MPIFR JIVE Bologna Bologna Haystack	Monitoring the expansion of SN 1993J at 6 cm		6 with NT, JB	17	11.0
GM028	Marcaide, J.M. Ros, E. Alberdi, A. Diamond, P.J. Shapiro, I.I. Guirado, J.C. Preston, R.A. Jones, D. Witzel, A. Krichbaum, T.P. Schilizzi, R.T. Mantovani, F. Trigilio, C. Whitney, A.R.	Valencia Valencia ESA-LAEFF NRAD-Socorro Cfa JPL JPL JPL MPIFR MPIFR JIVE Bologna Noto Haystack	Monitoring the expansion of SN 1993J at 13 cm		13 with GO, RO	3	12.0
VT002	Okayasu, R. Edwards, P.	ISAS ISAS	Ground telescope test for VSOP observing		6, 1.3	16	20.0
	Staff	NRAO	Maintenance Software			6, 13, 27	96.0 17.5

The average downtime was 5% (20.0 hours)
 Actual observing time was 383.5 hours
 The VLBA was scheduled 81% of the time (585.5 hours of a possible
 720 hours)

Astronomical Observations = 56% (403.5 hours)
 Tests and Calibrations = 16% (114 hours)
 Maintenance = 9% (68 hours)

Total Number of astronomical programs was 25

VLBA Utilization Report May 1996

Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BB023	Beasley, A. Conway, J. Dhawan, V. Walker, C. Wrobel, J.M. Patnaik, A. Muxlow, T.	NRAO-Socorro JIVE-Onsala NRAO-Socorro NRAO-Socorro NRAO-Socorro MPIFR Jodrell Bank	VLBA calibrator survey		3.6	15	24.0
BC051	Cotton, W.D. Feretti, L. Giovannini, G. Lara, L. Ventura, T. Marcaide, J.M.	NRAO-CV Bologna Bologna Bologna Bologna Valencia	VLBA polarization observations of NGC 315		6 With phased VLA	10	10.0
BC054	Coles, W.A. Klingesmith, M. Rickett, B.J.	Calif.-San Diego Calif.-San Diego Calif.-San Diego	Measurement of solar wind speed near the sun using IPS	LP	2, 3.6	1, 11, 12, 29, 30	3.0
BC055	Colbert, E. Roy, A. Ulvestad, J. Wilson, A.S. Norris, R.	STScI NRAO-Socorro JPL Maryland ATNF	Radio structure of Seyfert nuclei on parsec scales		2, 6, 18	31	4.0
BD031	Diamond, P.J. Field, D. Kemball, A.J. Gray, M.D. Mashedor, M.R.W.	NRAO-Socorro Bristol NRAO-Socorro Bristol Bristol	Polarization observations of OH masers in star forming regions		18	8	20.0
BE010	Eubanks, T.M. Matsakis, D.N. Fomalont, E. Beasley, T. Corey, B.E. Shapiro, I.I.	USNO USNO NRAO-CV NRAO-Socorro Haystack CFA	Interferometric test of general relativity using the VLBA at 2 cm		2	2	24.0
BG049	Gallimore, J.F. Baum, S.A. O'Dea, C.P.	MPE STScI STScI	VLBA Mapping of thermal emission from the Torus in NGC 1068		3.6, 18 With phased VLA	6	9.25
BG056	Garrett, M.A. Patnaik, A.R. Nair, S. Porcas, R.W.	Jodrell Bank MPIFR Jodrell Bank MPIFR	VLBA 15 GHz and 43 GHz multi-epoch observations of 1830-211		2	30	12.0
BH022	Hjellming, R.M. Dhawan, V. Rupen, M.P. Mirabel, F. Rodriguez, L.F.	NRAO-Socorro NRAO-Socorro NRAO-Socorro CNR-Saclay UNAM	"X-ray Nova" GRS 1739-278		13, 3.6	1	6.25
BK037	Kellermann, K. Zensus, A. Cohen, M. Vermeulen, R.	NRAO-CV NRAO-CV Caltech Caltech	Monitoring superluminal sources at 2cm		2	16	48.0
BK041	Kemball, A.J. Porcas, R.W. Patnaik, A.R.	NRAO-Socorro MPIFR MPIFR	VLBI polarimetry of the gravitational lens system 0218+357		1.3, 2	29	12.0
BM034C	Dhawan, V.	NRAO-Socorro	GRS 1915		13, 4	24	5
BM034D	Dhawan, V.	NRAO-Socorro	GRS 1915		13, 4	26	6
BM060	Menten, K.M. Reid, M.J.	CFA CFA	Proper motions of SiO masers in the central parsec of the galaxy			12	6.0
BM063	Marscher, A.P. Gomez, J.L. Wehrle, A.E. Xu, W. Georganopoulos, M.	Boston Boston JPL-IPAC JPL-IPAC Boston	Coordinated multiband observations of blazars		1.3	3	24.0
BM067	Mattox, J.R. Marscher, A.P. Wagner, S.	Maryland Boston Heidelberg	Gamma ray blazar 1622-297		1.3, 2	13	6.0
BP028	Patel, N.A. Zhang, Q. Herrnstein, J. Ho, P.T.P. Greenhill, L. Moran, J. Goldsmith, P.	CFA CFA CFA CFA CFA CFA Cornell	Proper motion of water masers around IRAS 21391+5802		1.3	19	6.0

VLBA Utilization Report May 1996

Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BR034	Roberts, D.H. Wardle, J.F.C. Ojha, R. Homan, D.C. Aller, H.D. Aller, M.F. Hughes, P.A.	Brandeis Brandeis Brandeis Michigan Michigan Michigan	Sources with rapidly varying polarization		1.3, 2	27	24.0
BR040	Ratner, M.I. Bartel, N. Lebach, D.E. Lestrade, J-F. Shapiro, I.I.	Cfa York Cfa Meudon Cfa	Astrometry of HR 1099 and IM Peg for the gravity probe-b mission		3.6 With Phased VLA, DSS14, DSS63	25	15.5
BS034	Salter, C.J. Salgado, J.F. Ghosh, T. Manoharan, P.K. Junor, B.	Arecibo Michigan Arecibo TIFR New Mexico	Scattering in the range $l=30$ to $l=75$		18, 90	5	10.0
BT022	Taylor, G. Vermeulen, R.	NRAO-Socorro Caltech	Measuring absolute motions in the Bi-directional jets of 1946+708		2, 3.6	11	14.0
BW026	Wehrle, A.E. Unwin, S.C. Zook, A.C. Xu, W.	JPL-IPAC Caltech Pomona JPL-IPAC	3C279: coordinated multiwavelength observations and evolution		1.3, 2	13	12.0
BZ017	Zensus, J.A. Lobanov, A.P. Leppanen, K.J.	NRAO-CV NRAO-Socorro Metsahovi	Monitoring the parsec-scale jet structure of 3C345		1.3, 2, 3.6, 6	30	16.5
	Staff	NRAO	Maintenance Software B-factor determination SURFSat tests		With VLA With GB	7 23, 21, 22	195.0 30.0 4.0 10.0

The average downtime was 4% (12.7 hours)

Actual observing time was 304.8 hours

The VLBA was scheduled 78% of the time (581.5 hours of a possible 744 hours)

Astronomical Observations = 43% (317.5 hours)

Tests and Calibrations = 16% (120 hours)

Maintenance = 19% (144 hours)

Total Number of astronomical programs was 23

VLBA Utilization Report April 1996

Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BB057	Bujarrabal, V. Colomer, F. Alcolea, J.	Yebes Obs Yebes Obs Yebes Obs	Spatial structure of the linearly polarized emission in SiO masers		0.7	6	14.0
BB066	Butler, B.	NRAO-Socorro	Occultation of J0237+2848 by comet		20	25	12.0
BC054	Coles, W.A. Klingesmith, M. Rickett, B.J.	Calif., San Diego Calif., San Diego Calif., San Diego	Measurement of solar wind speed near the sun using IPS	LP	2, 3.6	29, 30	1.0
BD027	Diamond, P.J. Kemball, A.J.	NRAO-Socorro NRAO-Socorro	Multi-epoch observations of stellar SiO masers		0.7 with VLA single antenna	5	24.0
BD033	Dewey, R. Beasley, A.	Princeton NRAO-Socorro	VLBA observations of millisecond pulsars for frame-tie		18 with 8h phased VLA	10	24.0
BD035	Doeleman, S. Claussen, M.	Haystack NRAO-Socorro	A new radio flare in N-Galaxy 3C111		1.3, 2	3	12.0
BE010	Eubanks, M.	USNO	GR light binding		2, 4, 13	23	24.0
BF013	Fomalont, E. Goss, M. Lyne, A. Manchester, R.	NRAO-CV NRAO-Socorro Manchester CSIRO	Pulsar parallax and proper motions: second and third epochs		18	1	17.0
BF019	Fassnacht, C. Snellen, I. deBruyn, G. Schilizzi, R. Browne, I. Jackson, N. Wilkinson, P. Myers, S. Pearson, T. Readhead, A.	Caltech Leiden NFRA NFRA Manchester Manchester Manchester Pennsylvania Caltech Caltech	VLBI imaging of the gravitational lens system 1608+656		6, 18	12	13.0
BG045	Greenhill, L.J. Moran, J.M. Danchi, W.C. Bester, M.	CFA CFA Calif., Berkeley Calif., Berkeley	Snapshot survey of SiO maser stars at maximum and minimum luminosity		0.7 with VLA single	21	10.0
BG050	Greenhill, L. Chernin, L.	CFA Calif., Berkeley	Collimation and launch of protostellar outflows		1.3 with VLA single	26	7.0
BH017	Ho, P.T.P. Patel, N. Torrelles, J.M. Gomez, J.F. Rodriguez, L.F. Curiel, S.	CFA CFA IAA, Spain Boston UNAM UNAM	Proper motions of circumstellar water masers in Cepheus A		1.3	13	6.0
BH022	Hjellming, R.	NRAO-Socorro	GRS 1739-279		13, 4	26, 27, 28	21.0
BM060	Menten, K.M. Reid, M.J.	CFA CFA	Proper motions of SiO masers in the central parsec of the galaxy		0.7 with VLA single	25, 26	16.0
BP028	Patel, N.A. Zhang, Q. Herrnstein, J. Ho, P.T.P. Greenhill, L. Moran, J. Goldsmith, P.	CFA CFA CFA CFA CFA CFA NAIC	Proper motion of water masers around IRAS 21391+5802		1.3	20	6.0
BS034	Salter, A.J. Salgado, J.F. Ghosh, T. Manoharan, P.K. Junor, B.	NAIC Michigan NAIC TIFR New Mexico	Scattering in the range $l=30$ to $l=75$		18, 90	4, 29	20.0
BS035	Simon, R. Beasley, A. Fomalont, E. Junor, B.	NRAO-CV NRAO-Socorro NRAO-CV New Mexico	90 cm VLBI survey		90	13	16.0
BS036	Stanghellini, C. O'Dea, C.P. Baum, S. Dallacasa, D. Fanti, R. Fanti, C. de Vries, W.	Bologna STScI STScI Bologna Bologna Bologna Groningen/Kapteyn	VLBA observations of GHz peaked spectrum radio sources		2, 18	22	24.0

VLBA Utilization Report April 1996

Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BT021	Tingay, S.J. Jauncey, D.L. Reynolds, J.E. Tzioumis, A.K. Preston, R.A. Meier, D.L. Jones, D.L. Murphy, D.W. Lovell, J.E.J. McCulloch, P.M. Costa, M.E.	Mt. Stromlo CSIRO CSIRO JPL JPL JPL JPL Tasmania Tasmania Tasmania	Short time scale monitoring of Centaurus A at 8.4 GHz		3.6	30	5.0
CMVA2	Phillips, R.	Haystack	MM observations (KP, OV only)			27	48.0
GRO12	Rupen, M.P. Bartel, N. Beasley, A.J. Conway, J. Bietenholz, M. Sorathia, B. Graham, D. Venturi, T. Umana, G. Rius, A. Altunin, V. Jones, D.	NRAO-Socorro York U. NRAO-Socorro Chalmers, Onsala York U. York U. MPIR, Bonn Bologna Bologna Barcelona JPL JPL	VLBI imaging of supernova 1993J in M81		3.6, 6, 18 With phased VLA	7	18.0
	Staff	NRAO	Coordinated Millimeter Array Maintenance Software	KO	3mm	27 4, 11, 18, 25	48.0 199.0 23.0

The average downtime was 6% (17.5 hours)

Actual observing time was 273.5 hours

The VLBA was scheduled 87% of the time (636 hours of a possible 720 hours)

Astronomical Observations = 40% (291 hours)

Tests and Calibrations = 24% (178 hours)

Maintenance = 23% (167 hours)

Total Number of astronomical programs was 21

VLBA Utilization Report March 1996

Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BB023	Beasley, A. Conway, J. Dhawan, V. Walker, C. Wrobel, J. Patnaik, A. Muxlow, T.	NRAO-Socorro JIVE-Onsala NRAO-Socorro NRAO-Socorro NRAO-Socorro MPIFR Jodrell Bank	VLBA calibrator survey		3.6	13	24.0
BB055	Biretta, J. Junor, B.	STScI New Mexico	Origin of the nuclear X-ray emission in M87		1.3, 18 With VLA single antenna	28	14.0
BB058	Bartel, N.	York	VLBI imaging of SN 1979C in M100 in the Virgo cluster		18 With Phased VLA	15	11.0
BC053	Clark, T. Ryan, J. Himwich, W. MacMillian, D. Gordon, D. Niell, A. Corey, B. Rogers, A. Eubanks, T. Fomalont, E. Walker, R.	NASA-GFSC NASA-GSFC NVI-GSFC NVI-GSFC Hughes Haystack Haystack Haystack USNO NRAO-CV NRAO-Socorro	NASA Space Geodesy Program: Geodetic observations for 1996		3.6 Scheduled as RDSATL, RDTPC, RDWPS, RDGEO1	11, 20	50.0
BD032	Dewey, R. Beasley, A.	Princeton NRAO-Socorro	Proper motions of pulsars in supernova remnants		18	25, 30	11.0
BF015	Fomalont, E. Bradshaw, C. Geldzahler, B.	NRAO-CV George Mason George Mason	The parallax of Sco X-1		6	16	3.0
BG049	Gallimore, J. Baum, S. O'Dea, C.	MPE STScI STScI	VLBA Mapping of thermal emission from the Torus in NGC 1068		3.6, 18 With phased VLA	23	12.0
BG050	Greenhill, L. Chernin, L.	CfA Calif.-Berkeley	Collimation and launch of protostellar outflows		1.3 With VLA single antenna	24	8.0
BG052	Gwinn, C. Greenhill, L.	Calif.-Santa Barbara CfA	Study of masers in a disk around a hidden AGN		1.3 With phased VLA	16	9.0
BH017	Ho, P. Patel, N. Torrelles, J. Gomez, J. Rodriguez, L. Curiel, S.	CfA CfA IAA Boston UNAM UNAM	Proper motions of circumstellar water masers in Cepheus A		1.3	10	8.0
BM049	Mioduszewski, A. Gabuzda, D. Aller, H.	Michigan Lebedev Michigan	Monitoring of six highly variable BL lacertae objects		1.3, 3.6	26	24.0
BM057	Marcaide, J. Ros, E. Alberdi, A. Diamond, P. Shapiro, I. Guirado, J. Preston, R. Jones, D. Witzel, A. Krichbaum, T. Schilizzi, R. Mantovani, F. Trigilio, C. Whitney, A.	Valencia Valencia ESA-LAEFF NRAO-Socorro CfA JPL JPL JPL MPIFR MPIFR JIVE Bologna Bologna Haystack	Radio-shell expansion in SN 1993J at 6cm		6 With phased VLA	28	13.0
BM065	Mundell, C. Pedlar, A. Wrobel, J. Baum, S. Gallimore, J.	Jodrell Bank Jodrell Bank NRAO-Socorro STScI MPE	HI absorption in NGC 4151		18 With phased VLA	19	15.0
BN002	Nakai, N. Inoue, M. Miyoshi, M. Diamond, P.	NAO NAO NAO NRAO-Socorro	H2O megamaser in the Seyfert galaxy IC 2560		1.3 With phased VLA	2	7.0

VLBA Utilization Report March 1996

Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BP028	Patel, N. Zhang, Q. Herrnstein, J. Ho, P. Greenhill, L. Moran, J. Goldsmith, P.	CfA CfA CfA CfA CfA CfA Cornell	Proper motion of water masers around IRAS 21391+5802		1.3	17	6.0
BP029	Perley, R. Bridle, A. Swain, M.	NRAO-Socorro NRAO-CV Rochester	Compact substructure in the jets of 3C219		18 With VLA single antenna	17	12.0
BR034	Roberts, D. Wardle, J. Ojha, R. Homan, D. Aller, H. Aller, M. Hughes, P.	Brandeis Brandeis Brandeis Brandeis Michigan Michigan Michigan	Sources with rapidly varying polarization		1.3, 2	22	24.0
BR038	Reid, M. Readhead, A. Treuhaft, R. Vermeulen, R.	CfA Caltech JPL Caltech	Trigonometric parallax to Sgr A*		0.7	20, 31	14.0
BR039	Reid, M. Menten, K. Argon, A.	CfA CfA CfA	Polarization mapping of OH masers		18	1, 2	17.0
BT021	Tingay, S. Jauncey, D. Reynolds, J. Tzioumis, A. Preston, R. Meier, D. Jones, D. Murphy, D. Lovell, J. McCulloch, P. Costa, M.	Mt. Stromlo ATNF ATNF ATNF JPL JPL JPL JPL Tasmania Tasmania Tasmania	Short time scale monitoring of Centaurus A at 8.4 GHz		3.6	23	5.0
	Staff	NRAO	Maintenance Software				214.0 23.0

The average downtime was 3% (8 hours)

Actual observing time was 265 hours

The VLBA was scheduled 81% of the time (597 hours of a possible
744 hours)

Astronomical Observations = 37% (273 hours)

Tests and Calibrations = 19% (140 hours)

Maintenance = 24% (184 hours)

Total Number of astronomical programs was 20

VLBA Utilization Report February 1996

Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BA009	Alberdi, A. Marcaide, J. Krichbaum, T. Graham, D. Witzel, A. Marscher, A.	ESA-LAEFF Valencia MPIFR MPIFR MPIFR Boston	7mm VLBI observations of the peculiar quasar 4C 39.25		0.7	25	15.0
BB041	Beasley, A. Fomalont, E.	NRAO-Socorro NRAO-CV	Absolute core motions of superluminal radio sources		3.6	1	48.0
BB045	Benz, A. Conway, J. Alef, W. Gudel, M.	ETH JIVE-Onsala MPIFR Paul Scherrer	VLBA observations of nearby dMe stars		3.6 with phased VLA	4	6.5
BB050	Blundell, K. Lacy, M.	Oxford Oxford	PC-Scale jets and core of the radio-quiet quasar E 1821+643		3.6, 6	7	8.0
BD027	Diamond, P. Kemball, A.	NRAO-Socorro NRAO-Socorro	Multi-epoch observations of stellar SiO masers		0.7 with VLA single antenna	2	24.0
BD030	Denn, G. Mutel, R.	Iowa Iowa	Polarization and monitoring of BL Lac as a test of AGN jet models		3.6, 2, 1.3	28	14.0
BH014	Hough, D. Vermeulen, R. Readhead, A.	Trinity Caltech Caltech	Search for superluminal motion in lobe dominated quasars: 3C270.1, 275.1		2	23	12.0
BH017	Ho, P. Patel, N. Torrelles, J. Gomez, J. Rodriguez, L. Curiel, S.	CfA CfA IAA IAA UNAM UNAM	Proper motions of circumstellar water masers in Cepheus A		1.3	11	7.0
BJ022	Jackson, N. Browne, I. Nair, S. Wilkinson, P. Myers, S. Fassnacht, C. Pearson, T. Readhead, A. Blandford, R. deBruyn, G. Schilizzi, R. Miley, G. Bremer, M.	Jodrell Bank Jodrell Bank Jodrell Bank Jodrell Bank Caltech Caltech Caltech Caltech Caltech NFRA (Dwingeloo) JIVE Leiden Leiden	Structure of the gravitational lens system 1600+434		6, 2	24	11.0
BL025	Lazio, T. Cordes, J.	Cornell Cornell	Compact doubles and AU scales in the neutral interstellar medium		21	14	12.0
BM055	Mantovani, F. Junor, W. Saikia, D. Salter, C.	Bologna New Mexico NCRA-Pune Arecibo	Polarization imaging of CSS sources with very high rotation measures		18	4	12.0
BM056	Moran, J. Herrnstein, J. Greenhill, L. Miyoshi, M. Inoue, M. Nakai, N. Diamond, P. Henkel, C.	CfA CfA CfA Mizusawa Nobeyama Nobeyama NRAO-Socorro MPIFR	The proper motions of the water vapor masers in NGC 4258		1.3 with phased VLA, GB	22	14.0
BR039	Reid, M. Menten, K. Argon, A.	CfA CfA CfA	Polarization mapping of OH masers		18	12	6.0
BS024	Shen, Z. Moran, J. Kellermann, K.	CfA CfA NRAO-CV	Southern blazar 1921-293		0.7, 6	10	7.5
BT021	Tingay, S. Jauncey, D. Reynolds, J. Tzioumis, A. Preston, R. Meier, D. Jones, D. Murphy, D. Lovell, J. McCulloch, P. Costa, M.	Mt. Stromlo ATNF ATNF ATNF JPL JPL JPL JPL Tasmania Tasmania Western Australia	Short time scale monitoring of Centaurus A at 8.4 GHz		3.6	27	6.0

VLBA Utilization Report February 1996

Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BW024	Wilkinson, P. Henstock, D. Readhead, A. Taylor, G. Pearson, T.	Jodrell Bank Jodrell Bank Caltech NRAO-Socorro Caltech	Completing the search for milli-lenses in the PR, CJ1 and CJ2 survey		1.3 with phased VLA, DSS63	18	24.0
BW025	Walker, R. Fomalont, E.	NRAO-Socorro NRAO-CV	VLBA Baselines - Service/test project		3.6 with VLA single antenna	9	24.0
BZ015	Zensus, J. Krichbaum, T. Lobanov, A. Witzel, A.	NRAO-CV MPIFR NMIMT MPIFR	Monitoring the helical trajectories in 3C345 at 43 GHz		0.7	24	9.0
GG029	Giovannini, G. Cotton, W. Feretti, L. Lara, L. Venturi, T. Marcaide, J.	Bologna NRAO-CV Bologna Bologna Bologna Valencia	VLBI observations at 18cm of 2 radio galaxies with extended jets		18	11	12.0
GR011	Rottgering, H. Riley, J. Minns, A. Warner, P. Rioja, M.	Cambridge Cambridge Cambridge Cambridge JIVE	Radio sources variable at 151 MHz		18	14, 15	20.0
VT001	Edwards, P.	ISAS	VSOP scheduling test		18 with Gb	13	9.0
	Staff	NRAO	Maintenance Coordinated MM array Software	KO	0.3, 0.2	1 8, 22, 29	72.0 16.0 18.0

Of a possible 672 hours, the VLBA was scheduled
(=29 days x 24 hours - 24 hours of NRAO Holiday)

Astronomical Observations: 301.0 hours, 45%

Tests and Calibrations: 169.0 hours, 25%

Maintenance: 55.0 hours, 8%

Downtime, 16.5 hours, 5.5%

Actual Observing, 284.5 hours

VLBA Utilization Report January 1996

Progm	Observer	Affiliation	Program Title	Stns	Bands cm	Observing Date	Sched Hours
BB023	Beasley, A. Conway, J. Dhawan, V. Walker, C. Wrobel, J. Patnaik, A. Muxlow, T.	NRAO-Socorro JIVE-Onsala NRAO-Socorro NRAO-Socorro NRAO-Socorro MPIfr Jodrell Bank	VLBA calibrator survey		3.6	2	24.0
BD022	Diamond, P. Kemball, A.	NRAO-Socorro NRAO-Socorro	Observations of the SiO masers in OH/IR stars		0.7	14	24.0
BG045	Greenhill, L. Moran, J. Danchi, W. Bester, M.	CfA CfA Calif.-Berkeley Calif.-Berkeley	Snapshot survey of SiO maser stars at maximum and minimum luminosity		0.7	16	12.0
BJ021	Jones, D. Dressel, L.	JPL ARC-GSFC	Compact radio sources associated with nuclear emission line regions		18	8	24.0
BL027	Lestrade, J. Phillips, R. Jones, D. Preston, R.	Paris/JPL Haystack JPL JPL	Astrometric monitoring of Sigma2 CrB		3.6	5	12.0
BL028	Leppanen, K. Gabuzda, D. Lobanov, A. Cawthorne, T.	Metsahovi ASC Lebedev NMIMT Lancashire	Linearly polarized structure of eight bright quasars at 1.3cm		1.3	24	24.0
BL029	Lonsdale, C. Smith, H. Lonsdale, C.	Haystack Calif.-San Diego Caltech-IPAC	Phase-referenced mapping of ultraluminous IR galaxies		18	17	36.0
BM050	Moellenbrock, G. Roberts, D. Wardle, J.	Brandeis Brandeis Brandeis	Polarization of gamma-ray blazars		1.3, 2	13	24.0
BM055	Mantovani, F. Junor, W. Saikia, D. Salter, C.	Bologna New Mexico NCRA-Pune Arecibo	Polarization imaging of CSS sources with very high rotation measures		3.6	21	12.0
B0003	Ojha, R. Aaron, S. Holdaway, M. Wardle, J. Roberts, D.	Brandeis Brandeis NRAO-Tucson Brandeis Brandeis	Structure and polarization of hotspots		18	11	15.0
BP025	Pearson, T. Readhead, A. Worrall, D.	Caltech Caltech CfA	Nucleus of the Quasar 3C48		2, 3.6, 18	20	14.0
BR034	Roberts, D. Wardle, J. Ojha, R. Roman, D. Aller, H. Aller, M. Hughes, P.	Brandeis Brandeis Brandeis Brandeis Michigan Michigan Michigan	Sources with rapidly varying polarization		1.3, 2	19	24.0
BR040	Ratner, M. Bartel, N. Lebach, D. Lestrade, J. Shapiro, I.	CfA York CfA Paris/JPL CfA	Reference sources for astrometry of HR 1099 and IM Peg		3.6	11	5.5
BS019	Sjouerman, L. Diamond, P. van Langevelde, H. Winnberg, A. Habing, A. Lindqvist, M.	Onsala NRAO-Socorro JIVE-Socorro Onsala Leiden Leiden	Stellar proper motions in galactic center from SiO and H2O masers		1.3	12	9.0
BS029	Stoecke, J. Rector, T. Gabuzda, D.	Colorado Colorado ASC Lebedev	X-ray loud BL Lacs and AGN unification		3.6	22	24.0
BW021	Wardle, J. Attridge, J. Roberts, D.	Brandeis Brandeis Brandeis	Comparing emission-line BL Lacs and OVV/HPQ quasars		6	6	24.0
GW013	Wehrle, A. Unwin, S. Zook, A.	JPL-IPAC Caltech Pomona	3C 279; coordinated multiwavelength observations and evolution		1.3	7	13.0
	Staff	NRAO	Maintenance Coordinated MM Array Software	K	3mm	26 4, 11, 18,	108.0 144.0 27.5

Of a possible 720 hours, the VLBA was scheduled
Astronomical Observations: 334.0 hours, 46%
Tests and Calibrations: 145.0 hours, 20%
Maintenance: 77.0 hours, 11%
Downtime, 7.0 hours, 2%