

VLBA Utilization Report December 1997

| Progm | Observer | Affiliation | Program Title | Stns | Bands cm | Observing Date | Sched Hours |
|-------|---|---|--|------|--------------------------------|----------------|-------------|
| BB075 | Biretta, J. Junor, B. | STScI New Mexico | Search for superluminal motion in the nucleus of M87 | | 18 With VLA single antenna | 1 | 8.0 |
| BC065 | Clark, T. Ma, C. Ryan, J. Vandenberg, N. Hinwich, E. Gordon, D. Eubanks, M. Fey, A. Gaume, R. Fomalont, E. Walker, C. | NASA-GFSC NASA-GSFC NASA-GSFC NVI-GSFC NVI-GSFC Hughes-GSFC USNO USNO USNO NRAO-CV NRAO-Socorro | VLBA Geodesy/Astrometry observations for 1997 | | 3.6 Scheduled as RDV06 | 17 | 25.0 |
| BC071 | Conway, J. Rantakyro, F. Polatidis, A. Wehrle, A. | Onsala Bologna Onsala JPL | Combined VSOP-VLBA-CMVA imaging of 3C273 | | 0.7 | 24 | 12.0 |
| BD037 | Denn, G. Mutel, R. | Iowa Iowa | Polarized VLB jet of BL Lac | | 1.3, 2, 6 | 26 | 14.0 |
| BD046 | Diamond, P.J. Kemball, A.J. Boboltz, D.A. | Manchester NRAO-Socorro NRAO-Socorro | Monitoring SiO masers through a cycle of Mira TX Cam | | 0.7 With VLA single antenna | 5, 17, 30 | 18.0 |
| BD047 | Doeleman, S. Lonsdale, C. Greenhill, L. Kemball, A. Diamond, P. | Haystack Haystack CfA NRAO-Socorro Manchester | SiO masers in VX Sgr | | 0.7 With VLA single antenna | 13 | 9.0 |
| BD048 | Doeleman, S. Barvainis, R. Lonsdale, C. Greenhill, L. Phillips, R. | Haystack Haystack Haystack CfA Haystack | SiO masers in the Orion nebula | | 0.7 With VLA single antenna | 15 | 10.0 |
| BE016 | Edwards, P.G. Lovell, J.E.J. Fujisawa, K. Jauncey, D. Reynolds, J. Tzioumis, A. King, E. Preston, R. Murphy, D. Meier, D. Jones, D. Tingay, S. McCulloch, P. Costa, M. Tornikoski, M. Valtaoja, E. Nicolson, G. | ISAS ISAS ISAS ATNF ATNF ATNF ATNF JPL JPL JPL JPL JPL Tasmania Tasmania Metsahovi Metsahovi Hartebeesthoek | Very high brightness source 1921-293 | | 0.7, 2 | 1 | 3.0 |
| BF034 | Furuya, R. Kawabe, R. Saito, M. Wootten, H.A. Claussen, M.J. Marvel, K.B. Umemoto, T. Kitamura, Y. | Graduate University NAO CfA NRAO-CV NRAO-Socorro Caltech NAO ISAS | Proper motion of H2O masers in the Class 0 protostar S106FIR | | 1.3 | 5 | 6.0 |
| BG071 | Goodman, A.A. Greenhill, L.J. | Harvard CfA | Zooming in on pre-main sequence star forming regions | | 3.6 With phased VLA, Goldstone | 7 | 7.0 |
| BG073 | Gomez, J.L. Marscher, A.P. Alberdi, A. | ESA-LAEFF Boston ESA-LAEFF | 3C 120 rapid variations | | 0.7, 1.3 | 11 | 12.0 |
| BG076 | Greenhill, L.J. Herrnstein, J.R. Moran, J.M. Braatz, J.A. Diamond, P.J. | CfA NRAO-Socorro CfA CfA Manchester | Weak water masers in NGC 3735 and M51 | | 1.3, 3.6 | 16, 17 | 12.0 |
| BH042 | Herrnstein, J.R. Moran, J.M. Greenhill, L.J. | NRAO-Socorro CfA CfA | Are quasars being ejected from the Nucleus of NGC 4258? | | 18 With phased VLA | 4 | 10.0 |

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|-------|---|--|---|------|---------------------------------|-------------------|----------------|
| BH046 | Homan, D.C. Wardle, J.F.C. Roberts, D.H. Norris, R.P. Rayner, D. Sault, R. | Brandeis Brandeis Brandeis ATNF ATNF ATNF | Circular polarization in 3C 84 and 3C 279 | | 1.3, 2, 3.6, 6 | 7 | 24.0 |
| BM087 | Marcaide, J.M. Guirado, J.C. Perez-Torres, M.A. Ros, E. | Valencia Valencia Valencia Valencia | Absolute kinematics of radio source components in the complete S5 Survey | | 2, 3.6 | 6 | 24.0 |
| BP041 | Peck, A. Taylor, G. Goss, M. | NMIMT NRAO-Socorro NRAO-Socorro | CSO candidates at 8 and 15 GHz | | 2 With VLA single antenna | 28 | 24.0 |
| BR050 | Ratner, M.I. Bartel, N. Lebach, D.E. Lestrade, J.-F. Shapiro, I.I. | CfA York CfA Meudon CfA | Astrometry of the guide star for the gravity probe-b mission | | 3.6 With phased VLA, DSN | 21, 27 | 40.5 |
| BV026 | Vermeulen, R.C. Taylor, G.B. | NFRA NRAO-Socorro | Neutral gas in the archetype compact symmetric object 2352+495 | | 18 | 1, 2 | 22.0 |
| V004 | Pauliny-Toth, I. | MPIfr | SVLBI Observations of the quasar 3C454.3 | | 6 With phased VLA | 12 | 10.0 |
| V034 | Murphy, D.W. | JPL | Continuous monitoring of 1928+739 | | 6 With Eb, Ud | 16 | 8.0 |
| V035 | Reid, M.J. | CfA | Nuclear jet in M87 | | 18 With Ro, Go | 21 | 8.0 |
| V059 | Davis, R. | Jodrell Bank | VSOP Observations of the Jet in 3C273 | | 18 With Ro, Go | 23 | 8.0 |
| V067 | Carrara, E. | Sao Paulo | Parsec-scale jet in superluminal quasar 3C273 | | 6 With Eb, Ud | 22 | 12.5 |
| V081 | Junor, B. | New Mexico | Parsec scale and sub-parsec scale jet of Virgo A | | 6 With phased VLA, Eb | 20 | 11.0 |
| V090 | Kus, A. | Torun | Helical jet in CSS quasars: 3C 309.1 | | 18 With Go | 19 | 12.5 |
| V092 | Roberts, D.H. | Illinois | Polarization space VLBI of four bright quasars: 3C 454.3 | | 18 With phased VLA | 11 | 12.0 |
| V110 | Nicolson, G.D. | Hartebeesthoek | Rapid variations in BL Lac objects: 1144-379 | | 6 (Penticton corr) | 28 | 7.5 |
| V138 | Okayasu, R. | ISAS | Do BL lac objects have rapidly decelerated jets: BL Lac | | 6 | 8 | 12.0 |
| CMVA | | | Coordinated Millimeter VLBI Array | | | 13, 14 | 12.0 |
| | Staff | NRAO | Maintenance Software | | | | 75.0 21.5 |

The average downtime was 1.5% (6 hours)

Actual observing time was 383.5 hours

The VLBA was scheduled 75% of the time (517.5 hours of a possible
698 hours)

Astronomical Observations = 56% (389.5 hours)

Tests and Calibrations = 9% (60.0 hours)

Maintenance = 10% (68.0 hours)

Total Number of astronomical programs was 28

VLBA Utilization Report November 1997

| Progm | Observer | Affiliation | Program Title | Stns | Bands cm | Observing Date | Sched Hours |
|-------|---|---|--|------|------------------------------------|-------------------|----------------|
| BA027 | Alef, W. Preuss, E. Kellermann, K.I. | MPIfR MPIfR NRAO-CV | 7mm polarimetric monitoring of the outburst in 3C111 | | 0.7 With Eb | 12 | 14.0 |
| BA028 | Aaron, S. Roberts, D. Wardle, J. Cohen, M. | MPIfR Brandeis Brandeis Caltech | Spiral jets in 0814+425 and 1749+701 | | 2, 6, 18 With Eb, VLA single | 11 | 17.0 |
| BC067 | Coles, W.A. Ye, S. Massey, W. | Calif.-San Diego Calif.-San Diego Calif.-San Diego | Measurement of solar wind speed near the sun using IPS | | 2, 3.6, 6 | 10 | 1.8 |
| BC074 | Cawthorne, T. Hutchison, J. | Lancashire Lancashire | Polarization of quasar 4C71.07 | | 2, 3.6 | 19 | 9.0 |
| BD042 | Dewey, R. Beasley, A. | Princeton NRAO-Socorro | VLBA observations of millisecond pulsars for frame tie | | 18 With phased VLA | 22 | 13.0 |
| BD046 | Diamond, P.J. Kemball, A.J. Boboltz, D.A. | Manchester NRAO-Socorro NRAO-Socorro | Monitoring SiO masers through a cycle of Mira TX Cam | | 0.7 With VLA single | 8, 21 | 12.0 |
| BE016 | Edwards, P.G. Lovell, J.E.J. Fujisawa, K. Jauncey, D. Reynolds, J. Tzioumis, A. King, E. Preston, R. Murphy, D. Meier, D. Jones, D. Tingay, S. McCulloch, P. Costa, M. Tornikoski, M. Valtaoja, E. Nicolson, G. | ISAS ISAS ISAS ATNF ATNF ATNF ATNF JPL JPL JPL JPL JPL Tasmania Tasmania Metsahovi Metsahovi Hartebeesthoek | Very high brightness source 1921-293 | | 0.7, 2 | 30 | 9.0 |
| BF034 | Furuya, R. Kawabe, R. Saito, M. Wootten, H.A. Claussen, M.J. Marvel, K.B. Umemoto, T. Kitamura, Y. | Graduate University Nobeyama Nobeyama NRAO-CV NRAO-Socorro Caltech NAO ISAS | Proper motion of H2O masers in the Class 0 protostar S106FIR | | 1.3 | 5 | 6.0 |
| BF037 | Faison, M.D. Marscher, A.P. | Wisconsin Boston | Small scale structure in galactic molecular gas | | 6 With phased VLA | 16 | 16.0 |
| BG073 | Gomez, J.L. Marscher, A.P. Alberdi, A. | IAA Boston ESA-LAEFF | 3C 120 rapid variations | | 0.7, 1.3 | 10 | 12.0 |
| BG076 | Greenhill, L.J. Herrnstein, J.R. Moran, J.M. Braatz, J.A. Diamond, P.J. | Cfa NRAO-Socorro Cfa Maryland Manchester | Weak water masers in NGC 3735 and M51 | | 1.3, 3.6 | 7 | 6.0 |
| BK053 | Krichbaum, T.P. Lobanov, A. Britzen, S. Witzel, A. Zensus, J.A. | MPIfR MPIfR Dwingeloo MPIfR NRAO-CV | Broad band variability and jet bending in PKS 0528+134 | | 0.7, 1.3, 3.6 With Eb | 13 | 14.0 |
| 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 | 14 | 6.0 |
| BL041 | van Langevelde, H. Beasley, A. | JIVE NRAO-Socorro | Formaldehyde absorption in Centaurus A | | 2, 6 | 20 | 8.0 |
| BL049 | Lestrade, J-F. Phillips, R.B. Jones, D.L. Preston, R.A. | Meudon Haystack JPL JPL | A possible Jupiter-mass planet orbiting Sigma 2 CrB | | 3.6 With phased VLA | 28 | 12.0 |
| BM086 | Moscadelli, L. Cesaroni, R. Rioja, M. | MPIfR Arcetri JIVE | Water masers in IRAS 20126+4104 | | 1.3 | 21 | 12.0 |
| BP037 | Porcas, R. Patnaik, A. Kemball, A. | MPIfR MPIfR NRAO-Socorro | 5 GHz polarimetry of the gravitational lens B0218+357 | | 6 With Eb | 19 | 12.0 |

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| Progm | Observer | Affiliation | Program Title | Stns | Bands cm | Observing Date | Sched Hours |
|-------|--|---|--|------|---|-------------------|----------------|
| BR050 | Ratner, M.I. Bartel, N. Lebach, D.E. Lestrade, J.-F. Shapiro, I.I. | Cfa York Cfa Meudon Cfa | Astrometry of the guide star for the gravity probe-b mission | | 3.6 With phased VLA, Ro, Go | 29 | 14.0 |
| BT025 | Trigilio, C. Umana, G. Leto, G. Beasley, A.J. Rodono, M. Buemi, C. Catalano, S. Pagano, I. Walter, F.M. | Noto Noto Noto NRAO-Socorro Catania Catania Catania Catania Bonn | Multi-wavelength studies of coronal structures on AR Lac | | 2, 3.6 With phased VLA | 1, 2, 3 | 53.0 |
| BT028 | Tingay, S.J. Preston, R.A. Jones, D.L. Murphy, D.W. Meier, D.L. Jauncey, D.L. Reynolds, J.E. Tzioumis, A.K. McCulloch, P. Lovell, J.E.J. Costa, M.E. | JPL JPL JPL JPL JPL ATNF ATNF ATNF Tasmania ISAS Tasmania | Monitoring of Centaurus A at 8.4 and 22 GHz | | 1.3, 3.6 | 9 | 7.0 |
| BW031 | Wehrle, A.E. Unwin, S.C. Zook, A.C. Xu, W. | IPAC JPL Pomona IPAC | 3C279: coordinated multi-wavelength observations and evolution | | 0.7, 1.3, 2, 6 | 16 | 12.0 |
| BW037 | Wootten, A. Marvel, K.B. Claussen, M.J. Wilking, B.A. | NRAO-CV Caltech NRAO-Socorro Missouri | Water masers associated with Protostar IRAS 16293-2422 | | 1.3 | 8 | 5.0 |
| BY006 | Yates, J. Ivison, R. Diamond, P. | Herefordshire Hawaii Manchester | Water masers in the symbiotic Mira R Aqr | | 1.3 | 17 | 9.0 |
| GR016 | Ros, E. Marcaide, J.M. Guirado, J.C. Perez-Torres, M.A. Lara, L. Alberdi, A. | Valencia Valencia Valencia Valencia IAA ESA-LAEFF | Proper motions in quad gravitational lenses | | 3.6 With EVN, VLA, Ro, Go | 23 | 17.0 |
| GR017 | Rupen, M.P. Bartel, N. Bietenholz, M.F. Beasley, A.J. Conway, J. Rius, A. Altunin, V. Jones, D. Graham, D. Venturi, T. Umana, G. | NRAO-Socorro York York NRAO-Socorro Onsala Barcelona JPL JPL MPIFR Bologna Noto | VLBI imaging of Supernova 1993J in MB1 | | 3.6, 6, 18, 90 With EVN, VLA, DS | 14 | 23.0 |
| V046 | Rioja, M. | JIVE | Space VLBI astrometry on the quasar pair 1038+528A | | 18 With DSN | 24 | 14.0 |
| V053 | Witzel, A. | MPIFR | Polarization variability of intraday variable sources | | 6 | 5 | 16.0 |
| VT906 | VSOG | ISAS | HALCA In-Orbit Checkout: 2021+614 | | 6 With EVN, phased VLA | 6 | 9.0 |
| VT907 | VSOG | ISAS | HALCA In-Orbit Checkout - 1954+513 | | 6 With EVN | 15 | 16.0 |
| | Staff | NRAO | Maintenance Software | | | 6, 13, 19 | 88.5 18.0 |

The average downtime was 2.2% (8 hours)

Actual observing time was 366.8 hours

The VLBA was scheduled 77% of the time (533.3 hours of a possible 696 hours)

Astronomical Observations = 54% (374.8 hours)

Tests and Calibrations = 13% (90.5 hours)

Maintenance = 10% (68.0 hours)

Total Number of astronomical programs was 29

VLBA Utilization Report October 1997

| Progm | Observer | Affiliation | Program Title | Stns | Bands cm | Observing Date | Sched Hours |
|-------|---|--|---|------|--|-------------------|----------------|
| BB076 | Bower, G.C. Backer, D. Wright, M. | Calif.-Berkeley Calif.-Berkeley Calif.-Berkeley | Monitoring of the gamma ray blazar NRAO 530 | | 0.7, 1.3 | 13 | 10.0 |
| BC066 | Claussen, M.J. Diamond, P.J. Braatz, J.A. Wilson, A.S. Henkel, C. | NRAO-Socorro Manchester Maryland Maryland MPIFR | Water masers in elliptical galaxy NGC 1052 | | 1.3 With Eb, phased VLA | 6 | 13.0 |
| BC067 | Coles, W.A. Ye, S. Massey, W. | Calif.-San Diego Calif.-San Diego Calif.-San Diego | Measurement of solar wind speed near the sun using IPS | LPK | 2, 3.6, 6 | 21, 19, 20 | 8.0 |
| BC070 | Charlot, P. Sol, H. Vicente, L. | Paris Obs Meudon Meudon | Multi-frequency monitoring of BL Lac object OJ287 | | 1.3, 3.6, 6 | 18 | 7.0 |
| BD037 | Denn, G. Mutel, R. | Iowa Iowa | Polarized VLB jet of BL Lac | | 1.3, 2, 6 | 11 | 14.0 |
| BD044 | Dhawan, V. | NRAO-Socorro | GRS 1915+105 | | 13, 4, 2 | 3, 23, 30 | 16.0 |
| BD046 | Diamond, P.J. Kemball, A.J. Boboltz, D.A. | Manchester NRAO-Socorro Haystack | Monitoring SiO masers through a cycle of Mira TX Cam | | 0.7 With VLA single antenna | 9, 25 | 12.0 |
| BD047 | Doeleman, S. Lonsdale, C. Greenhill, L. Kemball, A. Diamond, P. | Haystack Haystack CfA NRAO-Socorro Manchester | SiO masers in VX Sgr | | 0.7 With VLA single antenna | 25 | 9.0 |
| BD048 | Doeleman, S. Barvainis, R. Lonsdale, C. Greenhill, L. Phillips, R. | Haystack Haystack Haystack CfA Haystack | SiO masers in the Orion nebula | | 0.7 With VLA single antenna | 26 | 10.0 |
| BF028 | Fey, A. Gaume, R. Eubanks, M. Ma, C. | USNO USNO USNO GSFC | Southern hemisphere astronomy for the celestial reference frame | FS | 3.6 With geodetic net | 27 | 25.0 |
| BF036 | Fassnacht, C. Pearson, T. Readhead, T. | Caltech Caltech Caltech | Gravitational lens CLASS 2045+265 | | 6 | 17 | 12.0 |
| BG071 | Goodman, A.A. Greenhill, L.J. | Harvard CfA | Pre-main sequence star forming regions | | 3.6 With Go, phased VLA | 29 | 7.5 |
| BH043 | Hagiwara, Y. Kawabe, R. Diamond, P.J. Kameno, S. Nakai, N. Miyoshi, M. | Graduate University Nobeyama Manchester Nobeyama Nobeyama Mituzawa | The megamaser galaxy NGC 5793 | | 6 | 12 | 8.0 |
| BI007 | Imai, H. Sasao, T. Kameya, O. Miyoshi, M. Deguchi, S. Asaki, Y. | Tohoku Mizusawa Mizusawa Mituzawa Nobeyama Graduate Univ. | Proper motions of water masers in W3 IRS 5 | | 1.3 | 8 | 10.0 |
| BK050 | Kemball, A. Porcas, R. Patnaik, A. | NRAO-Socorro MPIFR MPIFR | VLBI Polarimetry of gravitational lens B0218+35.7 at 7mm | | 0.7 With Eb, VLA single antenna | 4 | 12.0 |
| BK051 | Kemball, A. Dhawan, V. | NRAO-Socorro NRAO-Socorro | Second epoch of snapshot polarization survey at 7mm | | 0.7 With VLA single antenna | 9 | 24.0 |
| BL048 | van Langevelde, H. Schilizzi, R. Diamond, P. | JIVE JIVE Manchester | Parallax of nearby Miras | | 18 | 29 | 6.0 |
| BM049 | Mioduszewski, A.J. Gabuzda, D.C. Aller, H.D. | NRAO-Socorro Lebedev Michigan | Monitoring of six highly variable BL lacertae objects | | 1.3, 3.6 | 18 | 24.0 |
| BM081 | Moran, J.M. Herrnstein, J.R. Greenhill, L.J. Trotter, A. Miyoshi, M. Inoue, M. Nakai, N. Diamond, P.J. Henkel, C. | CfA NRAO-Socorro CfA CfA Mituzawa Nobeyama Nobeyama Manchester MPIFR | Dynamics and distance of water masers in NGC 4258 | | 1.3 With Eb, phased VLA | 1 | 14.0 |

VLBA Utilization Report October 1997

| Progm | Observer | Affiliation | Program Title | Stns | Bands cm | Observing Date | Sched Hours |
|-------|---|--|--|------|---|-------------------|----------------|
| BR046 | Rioja, M.J. Porcas, R.W. | JIVE MPIFR | VLBA Polarimetry on the quasar pair 1038+528 A and B | | 1.3, 3.6 With Effelsberg | 5 | 14.0 |
| BS044 | Sato, S. Inoue, M. Nakai, N. Shibata, K.M. Migenes, V. Kameno, S. Fujisawa, K. | Nobeyama Nobeyama Nobeyama Nobeyama Nobeyama ISAS | Monitoring of the continuum and H2O maser emission in NGC 3079 | | 1.3, 2, 3.6 With Eb, phased VLA | 2 | 12.0 |
| BT025 | Trigilio, C. Umana, G. Leto, G. Beasley, A.J. Rodono, M. Buemi, C. Catalano, S. Pagano, I. Walter, F.M. | Noto Noto Noto NRAO-Socorro Catania Catania Catania Catania Bonn | Radio and X-ray studies of coronal structures on AR Lac | | 2, 3.6 With phased VLA | 31 | 4.0 |
| BV024 | Vermeulen, R.C. van Langevelde, H.- Kellermann, K.I. Zensus, J.A. Cohen, M.H. | NFRA JIVE NRAO-CV MPIFR, Bonn Caltech | Shroud around the twin jets of NGC 1052 | | 0.7, 1.3 With VLA single antenna | 13 | 9.0 |
| CMVA | | | Coordinated Millimeter VLBI Array | | 0.3, 0.2 | 24 | 120.0 |
| V041 | Krichbaum, T. | MPIFR | Self similarity in the Jets of the S5-quasars 0836+71 and 1928+73 | | 18, 6 | 3, 7 | 26.0 |
| V053 | Witzel, A. | MPIFR | Intraday variable sources | | 6 | 17, 20 | 26.0 |
| VT824 | VSOG | ISAS | HALCA In-Orbit Checkout | | 18 With Phased VLA | 22 | 16.0 |
| VT825 | VSOG | ISAS | HALCA In-Orbit Checkout | | 6 With phased VLA | 23 | 16.0 |
| | Staff | NRAO | Maintenance Software | | | 9, 16, 24 | 102.5 18.0 |

The average downtime was 3.0% (11.25 hours)

Actual observing time was 364.0 hours

The VLBA was scheduled 71% of the time (530.5 hours of a possible
744 hours)

Astronomical Observations = 50% (375.5 hours)

Tests and Calibrations = 15% (109.0 hours)

Maintenance = 6% (46.0 hours)

Total Number of astronomical programs was 28

VLBA Utilization Report September 1997

| Progm | Observer | Affiliation | Program Title | Stns | Bands cm | Observing Date | Sched Hours |
|-------|---|--|--|------|---|-------------------|----------------|
| BB077 | Bondi, M. Dallacasa, D. Marcha, M. Stanghellini, C. | Bologna Bologna Lisbon Noto | Polarization and structure of flat spectrum radiogalaxies | | 6 with VLA single antenna | 1 | 24.0 |
| BC065 | Clark, T. Ma, C. Ryan, J. Vandenberg, N. Himwich, E. Gordon, D. Eubanks, M. Fey, A. Gaume, R. Fomalont, E. Walker, C. | NASA-GSFC NASA-GSFC NASA-GSFC NVI-GSFC NVI-GSFC Hughes USNO USNO USNO NRAO-CV NRAO-Socorro | VLBA Geodesy/Astrometry observations for 1997 | | 3.6 Scheduled as RDV05 | 8 | 24.0 |
| BC067 | Coles, W.A. Ye, S. Massey, W. | Calif.-San Diego Calif.-San Diego Calif.-San Diego | Measurement of solar wind speed near the sun using IPS | KLP | 2, 3.6, 6 | 21 | .6 |
| BC071 | Conway, J. Rantakyro, F. Polatidis, A. Wehrle, A. | Onsala Bologna Onsala IPAC | Combined VSOP-VLBA-CMVA imaging of 3C273 | | 0.7 | 3 | 11.0 |
| BD046 | Diamond, P.J. Kemball, A.J. Boboltz, D.A. | Manchester NRAO-Socorro Haystack | Monitoring SiO masers through a cycle of Mira TX Cam | | 0.7 With VLA single antenna | 12, 26 | 12.0 |
| BF032 | Faison, M.D. Diamond, P.J. Goss, M. Kemball, A.J. Taylor, G.B. | NRAO-Socorro Manchester NRAO-Socorro NRAO-Socorro NRAO-Socorro | Imaging small scale Galactic HI structure | | 18 With phased VLA | 7, 11 | 24.0 |
| BF033 | Frail, D. Taylor, G. Beasley, T. | NRAO-Socorro NRAO-Socorro NRAO-Socorro | Radio counterpart of GRB970508 | | 3.6 With phased VLA | 4 | 6.0 |
| BJ026 | Jones, D.L. Wehrle, A.E. | JPL JPL | The inner accretion disk in NGC 4261 (3C270) | | 0.7, 1.3 | 7 | 8.0 |
| BL049 | Lestrade, J-F. Phillips, R.B. Jones, D.L. Preston, R.A. | Meudon Haystack JPL JPL | A possible Jupiter-mass planet orbiting Sigma 2 CrB | | 3.6 With phased VLA | 22 | 12.0 |
| BM090 | Menten, K.M. Patnaik, A.R. Reid, M.J. Carilli, C. | MPIfR MPIfR Cfa NRAO-Socorro | The z=0.685 molecular cloud observed toward Einstein ring B0218+357 | | 0.7 | 29 | 10.0 |
| BW037 | Wootten, A. Marvel, K.B. Claussen, M.J. Wilking, B.A. | NRAO-CV Caltech NRAO-Socorro Missouri | Water masers associated with Protostar IRAS 16293-2422 | | 1.3 With VLA single antenna | 24 | 5.0 |
| GC018 | Conway, J. Owsianik, I. | Onsala Torun | CSO's with detected hotspot advance speeds | | 6 With EVN | 18, 24 | 25.5 |
| GG031 | Galama, T.J. vanden Heuvel, E.P. deBruyn, A.G. Vermeulen, R.C. Campbell, R.M. Lestrade, J.-F. Verbunt, F. Schilizzi, R.T. | Amsterdam Amsterdam NFRA NFRA NFRA Meudon Utrecht JIVE | Determining motions of pulsars through VLBI Astrometry | | 18 With EVN | 12 | 17.5 |
| GG032 | Giovannini, G. Arbizzani, E. Feretti, L. Venturi, T. Cotton, W.D. Lara, L. Taylor, G.B. | Bologna Bologna Bologna Bologna NRAO-CV IAA NRAO-Socorro | FRI radio galaxies 1144+35 and 3C338 | | 3.6 With EVN, VLA single antenna | 26, 27 | 20.0 |
| GL021 | Lonsdale, C. Diamond, P. Smith, H. Lonsdale, C. | Haystack Manchester Calif.-San Diego IPAC | OH megamaser and continuum emission in Arp 220 | | 18, 6 with EVN, phased VLA, DSN | 15, 19 | 25.0 |

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|-------|--|--|---|------|---|-------------------|----------------|
| GM030 | Marcaide, J.M. Ros, E. Guirado, J.C. Perez-Torres, M.A. Alberdi, A. Diamond, P.J. Shapiro, I.I. Preston, R.A. Jones, D. Schilizzi, R.T. Mantovani, F. Trigilio, C. VanDyk, S. Weiler, K.W. Whitney, A.R. | Valencia Valencia Valencia Valencia ESA-LAEFF NRAO-Socorro Cfa JPL JPL JIVE Bologna Noto UCLA NRL Haystack | Monitoring the expansion of SN 1993J at 6cm | | 6 With EVN, phased VLA | 21 | 14.0 |
| GP015 | Polatidis, A.G. Wilkinson, P.N. | Onsala Jodrell Bank | Monitoring the dramatic changes in the nuclear jet of 3C380 | | 6 With EVN, VLA single antenna | 20, 21 | 11.0 |
| GP016 | Polatidis, A.G. Xu, W. Wilkinson, P.N. Readhead, A.C.S. Pearson, T.J. Taylor, G.B. Conway, J.E. | Onsala IPAC Jodrell Bank Caltech Caltech NRAO-Socorro Onsala | Second epoch observations of compact symmetric objects from the PR | | 3.6 With EVN, VLA single antenna | 27 | 24.0 |
| GS012 | Snellen, I. Schilizzi, R.T. deBruyn, A.G. Miley, G.K. van Langevelde, H.J. | Leiden JIVE NFRA Leiden JIVE | Are all GPS galaxies compact symmetric objects? | | 18 | 14, 16 | 24.0 |
| GV015 | Venturi, T. Giovannini, G. Cotton, W. Feretti, L. Lara, L. Marcaide, J. | Bologna Bologna NRAO-CV Bologna IAA Valencia | VLBI observations of three FR II radio galaxies | | 6 With EVN, VLA single antenna | 23 | 12.0 |
| GW016 | Walker, C. Ulvestad, J. Muxlow, T. Benson, J. | NRAO-Socorro NRAO-Socorro Jodrell Bank NRAO-Socorro | Structure and motions in 3C120 at 1.6 GHz | | 18 With EVN, VLA single antenna | 17 | 15.0 |
| V047 | Gurvits, L. | NFRA | Structure of extremely high redshift quasars at 1.6 and 5 GHz | | 18,6 | 14, 22 | 25.0 |
| V347A | VSOG | ISAS | HALCA 10C | | 6 | 22 | 15.0 |
| VT820 | VSOG | ISAS | HALCA In-Orbit Checkout | | 6 | 5 | 14.0 |
| VT821 | VSOG | ISAS | HALCA In-Orbit Checkout | | 6 | 6 | 14.0 |
| | Staff | NRAO | Maintenance Software | | | | 113.5 16.5 |

The average downtime was 4.0% (16.0 hours)

Actual observing time was 360.5 hours

The VLBA was scheduled 72.5% of the time (526.0 hours of a possible
720 hours)

Astronomical Observations = 52% (376.5 hours)

Tests and Calibrations = 08% (59.5 hours)

Maintenance = 12.5% (90.0 hours)

Total Number of astronomical programs was 25

VLBA Utilization Report August 1997

| Progm | Observer | Affiliation | Program Title | Stns | Bands cm | Observing Date | Sched Hours |
|-------|---|--|---|------|---|-------------------|----------------|
| BA026 | Aaron, S. Wardle, J. Roberts, D. Paragi, Z. Fejes, I. Murphy, D. | MPIFR Brandeis Brandeis FOMISGO FOMISGO JPL | Imaging of misaligned jets at 327 MHz | | 90 | 12 | 12.0 |
| BB023 | Beasley, A. Conway, J. Dhawan, V. Walker, 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 | 27 | 24.0 |
| BB076 | Bower, G.C. Backer, D. Wright, M. | Calif.-Berkeley Calif.-Berkeley Calif.-Berkeley | Monitoring of the gamma ray blazar NRAO 530 | | 0.7, 1.3 | 17 | 8.0 |
| BB078 | Bradshaw, C. Fomalont, E.B. Geldzahler, B. | George Mason NRAO-CV George Mason | Sco x-1 | | 6, 18 With VLA single antenna | 3, 21 | 12.5 |
| BC072 | Cotton, W.D. Fanti, C. Fanti, R. Dallacasa, D. Foley, A.R. Schilizzi, R.T. Spencer, R.E. | NRAO-CV Bologna Bologna Bologna NFRA JIVE Jodrell Bank | Mapping Faraday rotation in the core of 3C138 | | 6 With VLA single antenna | 6 | 11.0 |
| BD046 | Diamond, P.J. Kemball, A.J. Boboltz, D.A. | Manchester NRAO-Socorro Haystack | Monitoring SiO masers through a cycle of Mira TX Cam | | 0.7 With VLA single antenna | 2, 16, 28 | 18.0 |
| BF033 | Frail, D. Taylor, G. Beasley, T. | NRAO-Socorro NRAO-Socorro NRAO-Socorro | Radio counterpart of GRB970508 | | 3.6 | 8 | 6.0 |
| BG071 | Goodman, A.A. Greenhill, L.J. | Harvard Cfa | Zooming in on pre-main sequence star forming regions | | 3.6 With phased VLA, Goldstone | 31 | 7.0 |
| BK052 | Kellermann, K. Zensus, J.A. Vermeulen, R. Cohen, M. | NRAO-CV NRAO-CV NFRA Caltech | Kinematics of quasars and AGN | | 2 | 28 | 48.0 |
| BM076 | Molnar, L. Mutel, R. Spangler, S. | Iowa Iowa Iowa | Survey of interstellar scattering towards Cygnus X | | 1.3, 2 With phased VLA | 24, 25 | 28.0 |
| BM080 | Moellenbrock, G. Roberts, D.H. Wardle, J.F.C. | ISAS Brandeis Brandeis | Polarization structure monitoring of gamma ray blazars | | 0.7, 1.3, 2, 3.6 | 10 | 28.0 |
| BM082 | Mattox, J.R. Buckley, J. | Boston Cfa | Parsec scale radio structure of TeV gamma emitter Mrk 501 | | 1.3, 2, 3.6 | 15 | 12.0 |
| BT035 | Tingay, S.J. Preston, R.A. Jauncey, D.L. Murphy, D.W. | JPL JPL ATNF JPL | Outbursting source 2255-282 | | 0.7, 1.3, 6 | 13 | 5.0 |
| BW032 | Wrobel, J.M. Condon, J.J. Baum, S.A. Xu, C. | NRAO-Socorro NRAO-CV STScI Maryland | Jets, black holes, and gas disks in UGC radio galaxies | | 18 | 21 | 6.0 |
| BW034 | Wilkinson, P. Marlow, D. Browne, I. Jackson, N. Readhead, A. Fassnacht, C. deBruyn, G. Myers, S. | Jodrell Bank Jodrell Bank Jodrell Bank Jodrell Bank Caltech Caltech NFRA Pennsylvania | VLBA observations of JVAS/CLASS gravitational lens candidates | | 6 With VLA single antenna | 2 | 24.0 |
| BW035 | Wilson, A.S. Ulvestad, J.S. Colbert, E. Roy, A. | Maryland NRAO-Socorro STScI NRAO-Socorro | Radio emission from accretion tori in Seyfert galaxies | | 3.6 | 7, 9 | 12.0 |
| BW037 | Wootten, A. Marvel, K.B. Claussen, M.J. Wilking, B.A. | NRAO-CV Caltech NRAO-Socorro Missouri | Water masers associated with Protostar IRAS 16293-2422 | | 1.3 With VLA single antenna | 23 | 5.0 |

VLBA Utilization Report August 1997

| Progm | Observer | Affiliation | Program Title | Stns | Bands cm | Observing Date | Sched Hours |
|-------|--|---------------------------------------|--|------|----------------------|-------------------|----------------|
| BZ022 | Zensus, J.A. Kellermann, K.I. Vermeulen, R.C. Cohen, M.H. | NRAO-CV NRAO-CV NFRA Caltech | Submilliarcsecond imaging of quasars and AGN | | 2 | 18 | 24.0 |
| V017 | Giovannini, G. | Bologna | VSOP Observations of 2 BL-lac type objects: Mrk 421 and Mrk 501 | | 18 with Goldstone | 4 | 8.0 |
| V030 | Preston, R. | JPL | Pearson-Readhead survey from space | | 6 | 8 | 10.5 |
| V034 | Murphy, D. | JPL | Continuous monitoring of 1928+739 | | 6 With Tr, Eb | 22 | 15.0 |
| VT817 | VSOG | ISAS | HALCA In-Orbit Checkout | | 18 With Go, Ti | 13 | 10.5 |
| | Staff | NRAO | Maintenance Software | | | | 101.5 22.0 |

The average downtime was 8.6% (28.6 hours)

Actual observing time was 303.4 hours

The VLBA was scheduled 75% of the time (303.4 hours of a possible
744 hours)

Astronomical Observations = 45% (332.0 hours)

Tests and Calibrations = 20% (144.0 hours)

Maintenance = 10% (74.0 hours)

Total Number of astronomical programs was 22

VLBA Utilization Report July 1997

| 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 Onsala NRAO-Socorro NRAO-Socorro NRAO-Socorro MPIfR Jodrell Bank | VLBA calibrator survey | | 3.6 | 2 | 24.0 |
| BB075 | Biretta, J. Junor, B. | STSci New Mexico | Search for superluminal motion in the nucleus of M87 | | 18 With VLA single antenna | 1 | 4.5 |
| BB076 | Bower, G.C. Backer, D. Wright, M. | Calif.-Berkeley Calif.-Berkeley Calif.-Berkeley | Monitoring of the gamma ray blazar NRAO 530 | | 0.7, 1.3 | 6 | 8.0 |
| BC065 | Clark, T. Ma, C. Ryan, J. Vandenberg, N. Hinwich, E. Gordon, D. Eubanks, M. Fey, A. Gaume, R. Fomalont, E. Walker, C. | NASA-GSFC NASA-GSFC NASA-GSFC NVI-GSFC NVI-GSFC Hughes USNO USNO USNO NRAO-CV NRAO-Socorro | VLBA Geodesy/Astrometry observations for 1997 | | 3.6,11 Scheduled as RDV04 | 24 | 24.0 |
| BC070 | Charlot, P. Sol, H. Vicente, L. | Meudon Meudon Meudon | Multi-frequency monitoring of BL Lac object OJ287 | | 1.3, 3.6, 6 | 4 | 7.0 |
| BD037 | Denn, G. Mutel, R. | Iowa Iowa | Polarized VLB jet of BL Lac | | 1.3, 2, 6 | 20 | 14.0 |
| BD041 | Dewey, R. Beasley, A. Balsano, R. | Princeton NRAO-Socorro Princeton | Proper motions of pulsars in supernova remnants | | 18 | 7, 8 | 12.0 |
| BD045 | Dhawan, V. Kellermann, K.I. Romney, J.D. | NRAO-Socorro NRAO-CV NRAO-Socorro | Monitoring the accelerating, bent jet in 3C84 at 7mm | | 0.7 With VLA single antenna | 11 | 14.0 |
| BD046 | Diamond, P.J. Kemball, A.J. Boboltz, D.A. | NRAO-Socorro NRAO-Socorro NRAO-Socorro | Monitoring SiO masers through a cycle of Mira TX Cam | | 0.7 With VLA single antenna | 6, 19 | 12.0 |
| BF033 | Frail, D. Taylor, G. Beasley, T. | NRAO-Socorro NRAO-Socorro NRAO-Socorro | Radio counterpart of GRB970508 | | 3.6 | 7 | 6.0 |
| BG062 | Greenhill, L.J. Herrnstein, J.R. Trotter, A.S. Moran, J.M. DePree, C. Cecil, G. | CfA NRAO-Socorro CfA CfA Agnes Scott North Carolina | Jet structure in NGC 4258 | | 18 With phased VLA, Gb | 15 | 12.0 |
| BG070 | Gallimore, J.F. Mundell, C. Pedlar, A. Baum, S. O'Dea, C. | MPE Jodrell Bank Jodrell Bank STSci STSci | Imaging the ionized Torus in NGC 4151 | | 3.6 With phased VLA | 18 | 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 | 3 | 6.0 |
| BL049 | Lestrade, J.F. Phillips, R.B. Jones, D.L. Preston, R.A. | Meudon Haystack JPL JPL | A possible Jupiter-mass planet orbiting Sigma 2 CrB | | 3.6 With phased VLA | 26 | 12.0 |
| BM072 | Marscher, A.P. Wehrle, A.E. Xu, W. | Boston JPL JPL | Coordinated multi-band observations of gamma ray blazars | | 0.7, 1.3 | 30 | 24.0 |
| BM078 | Marvel, K.B. Boboltz, D.A. | Caltech NRAO-Socorro | Water masers associated with a proto-planetary nebula | | 1.3 | 10 | 6.0 |
| BP036 | Polatidis, A.G. Conway, J.E. Murphy, D.W. | Onsala Onsala JPL | Coordinated monitoring of 1928+738 from VSOP and mm-VLBI | | 0.7 | 4 | 12.0 |

VLBA Utilization Report July 1997

| Progm | Observer | Affiliation | Program Title | Stns | Bands cm | Observing Date | Sched Hours |
|-------|--|--|---|------|---------------------------------------|-------------------|----------------|
| BT028 | Tingay, S.J. Preston, R.A. Jones, D.L. Murphy, D.W. Meier, D.L. Jauncey, D.L. Reynolds, J.E. Tzioumis, A.K. McCulloch, P. Lovell, J.E.J. Costa, M.E. | JPL JPL JPL JPL ATNF ATNF ATNF Tasmania Tasmania Tasmania | Monitoring of Centaurus A at 8.4 and 22 GHz | | 1.3, 3.6 | 20 | 6.5 |
| BV024 | Vermeulen, R.C. van Langevelde, H.- Kellermann, K.I. Zensus, J.A. Cohen, M.H. | NFRA JIVE NRAO-CV NRAO-CV Caltech | Shroud around the twin jets of NGC 1052 | | 0.7, 1.3, 2, 3.6, 6, 18 with Y1 | 9, 12, 15 | 27.0 |
| BW031 | Wehrle, A.E. Unwin, S.C. Zook, A.C. Xu, W. | JPL JPL Pomona JPL | 3C279: coordinated multi-wavelength observations and evolution | | 0.7, 1.3, 2, 6 | 16 | 12.0 |
| BW035 | Wilson, A.S. Ulvestad, J.S. Colbert, E. Roy, A. | Maryland NRAO-Socorro STScI NRAO-Socorro | Radio emission from accretion Tori in Seyfert galaxies | | 3.6 | 21 | 6.5 |
| BW037 | Wootten, A. Marvel, K.B. Claussen, M.J. Wilking, B.A. | NRAO-CV Caltech NRAO-Socorro Missouri | Water masers associated with Protostar IRAS 16293-2422 | | 1.3 With VLA single antenna | 26 | 5.0 |
| GM032 | Minier, V. Booth, R. Conway, J. | Onsala Onsala Onsala | VLBI of 6.7 GHz and 12.2 GHz methanol masers using EVN and VLBA | | 2 | 28 | 24.0 |
| V015 | Vestrand, W. | New Hampshire | Two epoch mapping of three variable CGRO blazars | | 18 | 29 | 10.0 |
| V025 | Kemball, A. | NRAO-Socorro | SVLBI Polarimetry with VSOP | | 18 With phased VLA | 13 | 9.0 |
| V083 | Langston, G. | NRAO-GB | High frequency variables | | 18 | 21 | 7.0 |
| VT809 | VSOG | ISAS | HALCA In-Orbit Checkout | | 18 With phased VLA, Ud | 5 | 9.5 |
| VT812 | VSOG | ISAS | HALCA In-Orbit Checkout | | 18 With phased VLA | 18 | 8.0 |
| | Staff | NRAO | Maintenance Software | | | | 108.0 29.0 |

The average downtime was 2.5% (8.0 hours)

Actual observing time was 326 hours

The VLBA was scheduled 75% of the time (562.5 hours of a possible 744 hours)

Astronomical Observations = 45% (334.0 hours)

Tests and Calibrations = 20% (151.5 hours)

Maintenance = 10% (77.0 hours)

Total Number of astronomical programs was 28

VLBA Utilization Report June 1997

| Progm | Observer | Affiliation | Program Title | Stns | Bands cm | Observing Date | Sched Hours |
|-------|--|---|---|------|---------------------------------|----------------|----------------------|
| BA027 | Alef, W. Preuss, E. Kellermann, K.I. | MPIfR MPIfR NRAO-CV | 7mm polarimetric monitoring of the outburst in 3C111 | | 0.7 With Eb | 12 | 14.5 |
| BB075 | Biretta, J. Junor, B. | STScI New Mexico | Search for superluminal motion in the nucleus of M87 | | 18 With VLA single antenna | 30 | 3.5 |
| BC067 | Coles, W.A. Ye, S. Massey, W. | Calif.-San Diego Calif.-San Diego Calif.-San Diego | Measurement of solar wind speed near the sun using IPS | | 2, 3.6, 6 | 3 | 1.5 |
| BD046 | Diamond, P.J. Kemball, A.J. Boboltz, D.A. | NRAO-Socorro NRAO-Socorro NRAO-Socorro | Monitoring SiO masers through a cycle of Mira TX Cam | | 0.7 With VLA single antenna | 7, 23 | 12.0 |
| BF031 | Falcke, H. Wilson, A. Nagar, N. Ulvestad, J. | Maryland Maryland Maryland NRAO-Socorro | Parsec scale properties of radio cores in nearby LINER galaxies | | 6 | 16 | 12.0 |
| BF033 | Frail, D. | NRAO-Socorro | GRB 970508 | | 4 | 2 | 5.5 |
| BG064 | Gabuzda, D.C. Kochanev, P.Y. | Lebedev Moscow Univ. | Polarization observations of six intraday variables | | 2, 3.6 With phased VLA | 1 | 24.0 |
| BH024 | Henstock, D. Wilkinson, P. Taylor, G. Readhead, T. Pearson, T. Browne, I. | Jodrell Bank Jodrell Bank NRAO-Socorro Caltech Caltech Jodrell Bank | CJ milli-lens survey - polarization observations | | 2, 3.6 With Eb | 6, 8, 10 | 30.0 |
| BMO78 | Marvel, K.B. Boboltz, D.A. | Caltech NRAO-Socorro | Water masers associated with a proto-planetary nebula | | 1.3 | 17 | 6.0 |
| BP035 | Patnaik, A.R. Porcas, R.W. Kemball, A. Garrett, M.A. | MPIfR MPIfR NRAO-Socorro JIVE | VLBA Polarimetry of gravitational lenses | | 2, 3.6 With Eb | 11, 12, 15, 30 | 26.0 |
| GL020 | Lara, L. Giovannini, G. Cotton, W.D. Feretti, L. Venturi, T. | IAA Bologna NRAO-CV Bologna Bologna | EVN and MERLIN observations of 3C264 at 18cm | H | 18 With EVN | 3 | .8 |
| GP015 | Polatidis, A.G. Wilkinson, P.N. | Onsala Jodrell Bank | Monitoring the dramatic changes in the nuclear jet of 3C380 | | 6 With EVN, VLA single antenna | 10 | 12.0 |
| GR015 | Rupen, M.P. Bartel, N. Bietenholz, M.F. Beasley, A.J. Conway, J. Rius, A. Altunin, V. Jones, D. Graham, D. Venturi, T. Umana, G. | NRAO-Socorro York York NRAO-Socorro Onsala Barcelona JPL JPL MPIfR Bologna Noto | VLBI Imaging of Supernova 1993J in M81 | | 3.6, 6, 18 With EVN, phased VLA | 6 | 12.0 |
| VT151 | VSOG | ISAS | HALCA In-Orbit Checkout | | 1.3 | 14 | 9.5 |
| VT154 | VSOG | ISAS | HALCA In-Orbit Checkout | | 1.3 With phased VLA | 19 | 9.0 |
| VT800 | VSOG | ISAS | HALCA In-Orbit Checkout | | 18 With EVN | 1 | 6.5 |
| VT801 | VSOG | ISAS | HALCA In-Orbit Checkout | | 6 With EVN | 4 | 11.5 |
| VT806 | VSOG | ISAS | HALCA In-Orbit Checkout | | 18 With phased VLA, Eb, Go | 26 | 10.0 |
| CMVA | Phillips, B. Staff | Haystack NRAO | Coordinated Millimeter VLBI Array Maintenance Software | OP | 0.3 | 18 | 9.6 336.0 24.0 |

The average downtime was 2% (4.0 hours)

Actual observing time was 212 hours

The VLBA was scheduled 74% of the time (533.5 hours of a possible 720 hours)

Astronomical Observations = 30% (216 hours)

Tests and Calibrations = 14% (99 hours)

Maintenance = 30% (220 hours)

Total Number of astronomical programs was 19

VLBA Utilization Report May 1997

| Prog# | 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 Onsala NRAO-Socorro NRAO-Socorro NRAO-Socorro MPIFR Jodrell Bank | VLBA calibrator survey | | 3.6 | 7 | 24.0 |
| BB075 | Biretta, J. Junor, B. | STScI New Mexico | Search for superluminal motion in the nucleus of M87 | | 18 With VLA single antenna | 1 | 8.0 |
| BB076 | Bower, G.C. Backer, D. Wright, M. | Calif.-Berkeley Calif.-Berkeley Calif.-Berkeley | Monitoring of the gamma ray blazar NRAO 530 | | 0.7, 1.3 | 12 | 10.0 |
| BC065 | Clark, T. Ma, C. Ryan, J. Vandenberg, N. Himwich, E. Gordon, D. Eubanks, M. Fey, A. Gaume, R. Fomalont, E. Walker, C. | NASA-GSFC NASA-GSFC NASA-GSFC NVI-GSFC NVI-GSFC Hughes USNO USNO USNO NRAO-CV NRAO-Socorro | VLBA Geodesy/Astrometry observations for 1997 | | 3.6 Scheduled as RDV03 | 19 | 25.0 |
| BC067 | Coles, W.A. Ye, S. Massey, W. | Calif.-San Diego Calif.-San Diego Calif.-San Diego | Measurement of solar wind speed near the sun using IPS | | 2, 3.6, 6 | 12, 13, 17, 30 | 5.0 |
| BC068 | Claussen, M.J. Beasley, A.J. | NRAO-Socorro NRAO-Socorro | 12.2 GHz methanol masers | | 2 | 25 | 12.0 |
| BD037 | Denn, G. Mutel, R. | Iowa Iowa | Polarized VLB jet of BL Lac | | 1.3, 2, 6 | 11 | 14.0 |
| BD046 | Diamond, P.J. Kemball, A.J. Boboltz, D.A. | NRAO-Socorro NRAO-Socorro NRAO-Socorro | Monitoring SiO masers through a cycle of Mira TX Cam | | 0.7 With VLA single antenna | 24 | 6.0 |
| BE012 | Edwards, P.G. Unwin, S.C. Wehrle, A.E. Weekes, T.C. | ISAS JPL JPL CfA | MKN 501 - a TeV gamma ray blazar | | 1.3, 2, 6 | 3 | 16.0 |
| BE014 | Ellingsen, S.P. Phillips, C.J. Sobolev, A.M. Beasley, A.J. Claussen, M.J. Cragg, D.M. Godfrey, P.D. | Tasmania Tasmania Urals Univ. NRAO-Socorro NRAO-Socorro Monash Monash | Are all Class II Methanol maser transitions coincident? | | 1.3, 2 | 30 | 14.5 |
| BF029 | Frail, D.A. Beasley, A.J. Claussen, M.J. Goss, M. Desai, K.M. | NRAO-Socorro NRAO-Socorro NRAO-Socorro NRAO-Socorro NRAO-CV | 1720 MHz OH Masers in W44 and W28 | | 18 | 9 | 8.0 |
| BF033 | Frail, D. | NRAO-Socorro | Adhoc/GRB 970508 | | 4 | 16,17,21,2 3,28 | 30.0 |
| BJ025 | Jauncey, D.L. Reynolds, J.E. Kedziora-Chudczer, Walker, M.A. Nicolson, G. Wieringa, M.H. King, E.A. Tzioumis, A.K. McCulloch, P. Gabuzda, D. | ATNF ATNF Sydney Univ. Sydney Univ. Hartebeesthoek ATNF ATNF ATNF Tasmania Lebedev | Monitoring of the intra-day variable PKS 0405-385 | | 2, 3.6 | 9 | 7.0 |
| 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 | 3, 10, 16 | 18.5 |
| 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 | 5 | 12.0 |
| BL048 | van Langevelde, H. Schilizzi, R. Diamond, P. | JIVE JIVE NRAO-Socorro | Parallax of nearby Miras | | 18 | 24 | 8.0 |

VLBA Utilization Report May 1997

| Progm | Observer | Affiliation | Program Title | Stns | Bands cm | Observing Date | Sched Hours |
|-------|--|----------------------------------|--|------|-----------------------------|-------------------|----------------|
| BL049 | Lestrade, J-F. Phillips, R.B. Jones, D.L. Preston, R.A. | Meudon Haystack JPL JPL | A possible Jupiter-mass planet orbiting Sigma 2 CrB | | 3.6 With phased VLA | 27 | 12.0 |
| BM078 | Marvel, K.B. Boboltz, D.A. | Caltech NRAO-Socorro | Water masers associated with a proto-planetary nebula | | 1.3 | 31 | 6.0 |
| BM082 | Mattox, J.R. Buckley, J. | Boston CfA | Parsec scale radio structure of TeV gamma emitter Mrk 501 | | 1.3, 2, 3.6 | 26 | 12.0 |
| BM084 | Mirabel, I. | Saclay | Proper motions of the Core of GRS 1915+105 | | 4 | 15 | 13.0 |
| BS029 | Stoche, J. Rector, T. Gabuzda, D. | Colorado Colorado Lebedev | X-ray loud BL Lacs and AGN unification | | 3.6 | 17 | 24.0 |
| EG017 | Garrington, S. Garrett, M. | Jodrell Bank JIVE | Survey of VLA FIRST sources | H | 18 Correlated in Bonn | 27, 28 | 20.0 |
| VT133 | VSOG | ISAS | HALCA In-Orbit Checkout | | 18 With phased VLA | 19 | 6.0 |
| VT136 | VSOG | ISAS | HALCA In-Orbit Checkout | | 6 with phased VLA | 22 | 6.0 |
| VT800 | VSOG | ISAS | HALCA in Orbit Checkout | | 2 | 31 | 5.0 |
| | Staff | NRAO | Maintenance Software | | | | 127.0 30.0 |

The average downtime was 3% (9.6 hours)

Actual observing time was 311.9 hours

The VLBA was scheduled 71% of the time (533.5 hours of a possible
744 hours)

Astronomical Observations = 43.2% (321.5 hours)

Tests and Calibrations = 16.1% (120.0 hours)

Maintenance = 12.4% (92.0 hours)

Total Number of astronomical programs was 25

VLBA Utilization Report April 1997

| Progm | Observer | Affiliation | Program Title | Stns | Bands cm | Observing Date | Sched Hours |
|-------|---|--|---|------|--|-------------------|----------------|
| BB023 | Beasley, A. | NRAO-Socorro | VLBA Calibrator Survey | | 4, 13 | 3 | 24 |
| BB064 | Benz, A.O. Conway, J.E. Alef, W. Gudel, M. | ETH Onsala MPIfR Paul Scherrer | Planet search via astrometry of dMe stars | | 3.6 With phased VLA | 18 | 10.0 |
| BB070 | Blundell, K.M. Beasley, A.J. Lacy, M. | Oxford NRAO-Socorro Oxford | Are the jets in radio quiet quasars relativistic? | | 3.6 With Phased VLA | 27 | 6.0 |
| BC065 | Clark, T. Ma, C. Ryan, J. Vandenberg, N. Himwich, E. Gordon, D. Eubanks, M. Fey, A. Gaume, R. Fomalont, E. Walker, C. | NASA-GFSC NASA-GSFC NASA-GSFC NVI-GSFC NVI-GSFC Hughes USNO USNO USNO NRAO-CV NRAO-Socorro | VLBA Geodesy/Astrometry observations for 1997 | | 3.6 Scheduled as RDVLB2 | 1 | 16.0 |
| BG065 | Garrett, M.A. Patnaik, A.R. Nair, S. Porcas, R.W. Leppanen, K. | JIVE MPIfR Jodrell Bank MPIfR JIVE | Multi-epoch polarization observations of lens 1830-211 | | 0.7 | 3, 17, 30 | 18.0 |
| BG066 | Gallimore, J.F. Baum, S.A. O'Dea, C. | MPE STScI STScI | Inner Torus of NGC 1068 | | 6, 18 With phased VLA | 26, 28 | 24.0 |
| BG069 | Giovannini, G. Cotton, W.D. Feretti, L. Lara, L. Venturi, T. | Bologna NRAO-CV Bologna IAA Bologna | An unbiased sample of radio galaxies | | 6 With VLA single antenna | 6 | 12.0 |
| BH025 | Herrnstein, J.R. Greenhill, L.J. Moran, J.M. Trotter, A. Diamond, P.J. Nakai, N. Inoue, M. Miyoshi, M. | CfA CfA CfA CfA NRAO-Socorro Nobeyama Nobeyama Mizusawa | Nuclear continuum source in NGC 4258 | | 1.3 With phased VLA, Eb | 7 | 14.0 |
| BJ025 | Jauncey, D.L. Reynolds, J.E. Kedziora-Chudczer, Walker, M.A. Nicolson, G. Wieringa, M.H. King, E.A. Tzioumis, A.K. McCulloch, P. Gabuzda, D. | ATNF ATNF Sydney Univ Sydney Univ Hartebeesthoek ATNF ATNF ATNF Tasmania Lebedev | Monitoring of the intra-day variable PKS 0405-385 | | 2, 3.6 | 4 | 7.0 |
| BM049 | Mioduszewski, A.J. Gabuzda, D.C. Aller, H.D. | NRAO-Socorro Lebedev Michigan | Monitoring of six highly variable BL lacertae objects | | 1.3, 3.6 | 6 | 24.0 |
| BM074 | Mutel, R. Molnar, L. | Iowa Iowa | Monitoring Algol's radio corona | | 3.6 With phased VLA, Eb | 20, 21, 22 | 33.0 |
| BM082 | Marscher, A. | Boston University | Mk 501 | | 2, 1, 7 | 25 | 12 |
| 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 With phased VLA | 27 | 10.0 |
| BW032 | Wrobel, J.M. Condon, J.J. Baum, S.A. Xu, C. | NRAO-Socorro NRAO-CV STScI Maryland | Jets, black holes, and gas disks in UGC radio galaxies | | 18 | 9 | 21.0 |
| BW033 | Walker, M.A. Beasley, A.J. | Sydney Univ NRAO-Socorro | Angular scattering by extragalactic plasmas | | 3.6, 6, 18, 90 With VLA single antenna | 18 | 24.0 |

VLBA Utilization Report April 1997

| Progm | Observer | Affiliation | Program Title | Stns | Bands cm | Observing Date | Sched Hours |
|-------|--|--|--|------|-------------|-------------------|----------------|
| BY005 | Yakimov, V.E. Gabuzda, D.C. Vetukhnovskaya, Y.N. Kardashev, N.S. Bychkova, V.S. Kovalev, Y.Y. | Lebedev Lebedev Lebedev Lebedev Lebedev Lebedev | Polarization observations of gamma ray sources | | 2, 6 | 5 | 12.0 |
| CK001 | Kemball, A. | NRAO-Socorro | SIO CMVA | | 7 | 14 | 8.0 |
| VT106 | VSOG | ISAS | HALCA In Orbit Checkout | | 18 | 4 | 8.0 |
| VT108 | VSOG | ISAS | HALCA In Orbit Checkout | | 18, 6 | 11 | 9.5 |
| CMVA | | | Combined Millimeter VLBI Array observations | KOP | 0.3 | 12 | 32.2 |
| | Staff | NRAO | Maintenance Software | | | 1, 10, 17, | 192.0 23.5 |

The average downtime was 3.0% (9.7 hours)

Actual observing time was 315.0 hours

The VLBA was scheduled 69% of the time (502.2 hours of a possible 720 hours)

Astronomical Observations = 45% (324.7 hours)

Tests and Calibrations = 13% (94.5 hours)

Maintenance = 11% (83.0 hours)

Total Number of astronomical programs was 20

VLBA Utilization Report March 1997

| 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 Onsala NRAO-Socorro NRAO-Socorro NRAO-Socorro MPIfR Jodrell Bank | VLBA calibrator survey | | 3.6 | 21 | 24.0 |
| BB073 | Blundell, K.M. Beasley, A.J. Axon, D. Lacy, M. Rawlings, S. Muxlow, T. Robinson, A. | Oxford NRAO-Socorro STScI Oxford Oxford Jodrell Bank Hertfordshire | Morphology of jets in radio-quiet quasars | | 18 | 24 | 12.0 |
| BC057 | Carrara, E.A. Zensus, J.A. Abraham, Z. Lobanov, A.P. | NRAO-Socorro NRAO-CV Sao Paulo NRAO-Socorro | Parsec scale structure of the 3C273 jet: multi-frequency monitoring | | 0.7, 1.3, 3.6, 6 | 15 | 13.0 |
| BC065 | Clark, T. Ma, C. Ryan, J. Vandenberg, N. Himwich, E. Gordon, D. Eubanks, M. Fey, A. Gaume, R. Fomalont, E. Walker, C. | NASA-GSFC NASA-GSFC NASA-GSFC NVI-GSFC NVI-GSFC Hughes USNO USNO USNO NRAO-CV NRAO-Socorro | VLBA Geodesy/Astrometry observations for 1997 | | 3.6 Scheduled as RDVLB2 | 31 | 8.5 |
| BC066 | Claussen, M.J. Diamond, P.J. Braatz, J.A. Wilson, A.S. Henkel, C. | NRAO-Socorro NRAO-Socorro Maryland Maryland MPIfR | Water masers in elliptical galaxy NGC 1052 | | 1.3 With phased VLA, EB | 6 | 10.0 |
| BD037 | Denn, G. Mutel, R. | Iowa Iowa | Polarized VLB jet of BL Lac | | 1.3, 2, 6 | 1 | 14.0 |
| BD040 | Doeleman, S. Claussen, M. | Haystack NRAO-Socorro | Evolution of a new radio flare in N-galaxy 3C111 | | 0.7, 1.3, 2 With EB | 8 | 16.0 |
| BG065 | Garrett, M.A. Patnaik, A.R. Nair, S. Porcas, R.W. Leppanen, K. | JIVE MPIfR Jodrell Bank MPIfR JIVE | Multi-epoch polarization observations of lens 1830-211 | | 0.7 | 5, 21 | 12.0 |
| BH020 | Hagiwara, Y. Kawabe, R. Diamond, P.J. Kameno, S. Nakai, N. Inoue, M. Kohno, K. | Graduate University Nobeyama NRAO-Socorro Nobeyama Nobeyama Nobeyama Nobeyama | Newly found H2O megamaser in galaxy NGC 5793 | | 1.3 With phased VLA | 2 | 8.0 |
| BH025 | Herrnstein, J.R. Greenhill, L.J. Moran, J.M. Trotter, A. Diamond, P.J. Nakai, N. Inoue, M. Miyoshi, M. | CfA CfA CfA CfA NRAO-Socorro Nobeyama Nobeyama Mitzusawa | Nuclear continuum source in NGC 4258 | | 1.3 With phased VLA, EB, GB | 7, 23 | 27.5 |
| BH032 | Haarsma, D.B. Lehar, J. Shapiro, I.I. | MIT CfA CfA | Model constraints for gravitational lens 0957+561 | | 18 With phased VLA, GB | 19 | 14.0 |
| BI005 | Imai, H. | NAO | Proper motions of water masers in the young massive-star cluster W3 IRS5 | | 1.3 | 26 | 10.0 |
| BJ025 | Jauncey, D.L. Reynolds, J.E. Kedziora-Chudczer, Walker, M.A. Nicolson, G. Wieringa, M.H. King, E.A. Tzioumis, A.K. McCulloch, P. Gabuzda, D. | ATNF ATNF Sydney Univ Sydney Univ Hartebeesthoek ATNF ATNF ATNF Tasmania Lebedev | Monitoring of the intra-day variable PKS 0405-385 | | 2, 3.6 | 2 | 7.0 |

VLBA Utilization Report March 1997

| Progm | Observer | Affiliation | Program Title | Stns | Bands cm | Observing Date | Sched Hours |
|-------|--|---|---|------|--|-------------------|----------------|
| BK048 | Kellermann, K. Zensus, J.A. Vermeulen, R. Cohen, M. | NRAO-CV NRAO-CV NFRA Caltech | Kinematics of quasars and AGN | | 2 | 10, 13 | 48.0 |
| 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 | 30 | 7.0 |
| BL049 | Lestrade, J-F. Phillips, R.B. Jones, D.L. Preston, R.A. | Meudon Haystack JPL JPL | A possible Jupiter-mass planet orbiting Sigma 2 CrB | | 3.6 With phased VLA | 17 | 12.0 |
| BL050 | Lara, L. Cotton, W.D. Feretti, L. Giovannini, G. Marcaide, J.M. Venturi, T. | IAA NRAO-CV Bologna Bologna Valencia Bologna | Looking for two-sided parsec scale jets: weak radiogalaxy nuclei | | 6 With VLA single antenna | 29 | 12.0 |
| 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 Nobeyama Nobeyama NRAO-Socorro MPIfR | The proper motions of the water vapor masers in NGC 4258 | | 1.3 With phased VLA, EB | 6 | 14.0 |
| BM067 | Mattox, J.R. Marscher, A.P. Wagner, S. | Maryland Boston Heidelberg | Gamma ray blazar 1622-297 | | 0.7, 1.3, 2 | 9 | 8.0 |
| BR038 | Reid, M.J. Readhead, A.C.S. Treuhaft, R. Vermeulen, R. | Cfa Caltech JPL NFRA | Trigonometric parallax to Sgr A* | | 0.7 | 16, 27 | 14.0 |
| 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 | | 0.7 With VLA single antenna | 19 | 8.0 |
| BS044 | Satoh, S. Inoue, M. Nakai, N. Shibata, K.M. Migenes, V. Kameno, S. Fujisawa, K. | Nobeyama Nobeyama Nobeyama Nobeyama Nobeyama Nobeyama ISAS | Monitoring of the continuum and H2O maser emission in NGC 3079 | | 1.3, 2, 3.6 With phased VLA, EB | 7 | 16.0 |
| BS053 | Spencer, R.E. Stirling, A.M. Ogley, R. | Jodrell Bank Jodrell Bank Open Univ. | Search for milliarcsecond jets in Cygnus X-1 | | 2 | 28 | 10.0 |
| BT028 | Tingay, S.J. Preston, R.A. Jones, D.L. Murphy, D.W. Meier, D.L. Jauncey, D.L. Reynolds, J.E. Tzioumis, A.K. McCulloch, P. Lovell, J.E.J. Costa, M.E. | JPL JPL JPL JPL JPL ATNF ATNF ATNF Tasmania Tasmania Tasmania | Monitoring of Centaurus A at 8.4 and 22 GHz | | 1.3, 3.6 | 24 | 7.0 |
| BW031 | Wehrle, A.E. Unwin, S.C. Zook, A.C. Xu, W. | IPAC IPAC Pomona IPAC | 3C279: coordinated multi-wavelength observations and evolution | | 0.7, 1.3, 2, 6 | 29 | 12.0 |
| GM031 | Mashedier, M.R.W. Cohen, R.J. Richards, A.M.S. Gray, M.D. Greenhill, L. van Langevelde, H.J. | Bristol Jodrell Bank Jodrell Bank Bristol Cfa JIVE | Mainline OH masers in circumstellar envelopes | | 18 With EVN | 4 | 12.0 |
| | Staff | NRAO | Maintenance Software | | | | 96.0 24.0 |

The average downtime was 8.0% (28.5 hours)
Actual observing time was 327.5 hours
The VLBA was scheduled 71% of the time (527.0 hours of a possible
744 hours)
Astronomical Observations = 48% (356.0 hours)
Tests and Calibrations = 15% (114.0 hours)
Maintenance = 8% (57.0 hours)
Total Number of astronomical programs was 26

VLBA Utilization Report February 1997

| Progm | Observer | Affiliation | Program Title | Stns | Bands cm | Observing Date | Sched Hours |
|-------|--|---|---|------|---|-------------------|----------------|
| BB075 | Biretta, J. Junor, B. | STScI New Mexico | Search for superluminal motion in the nucleus of M87 | | 18 with VLA single antenna | 25 | 8.0 |
| 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 | | 0.7, 3.6 | 27 | 5.0 |
| BE013 | Ellingsen, S.P. Norris, R.P. Diamond, P. Phillips, C.J. McCulloch, P.M. | Tasmania ATNF NRAO-Socorro Tasmania Tasmania | Proper motion study of 12 GHz methanol masers | 2 | | 1 | 22.0 |
| BG063 | Gabuzda, D.C. Cawthorne, T.V. Pushkarev, A.B. | Lebedev Lancashire Moscow Univ. | A 1Jy complete sample of BL Lac objects | | 2, 3.6, 6 | 9 | 48.0 |
| BG065 | Garrett, M.A. Patnaik, A.R. Nair, S. Porcas, R.W. Leppanen, K. | JIVE MPIFR Jodrell Bank MPIFR JIVE | Multi-epoch polarization observations of lens 1830-211 | | 0.7 | 2, 16 | 12.0 |
| BH031 | Horiuchi, S. Deguchi, S. Migenes, V. Umemoto, T. Tsuboi, M. | NAO NAO NAO NAO Ibaraki | H2O maser polarization in high mass star forming regions | | 1.3 | 1 | 10.0 |
| BH032 | Haarsma, D.B. Lehar, J. Shapiro, I.I. | MIT CfA CfA | Model constraints for gravitational lens 0957+561 | | 13 | 13 | 14.0 |
| BH039 | Hjellming, R. | NRAO-Socorro | Cyg X-3 | | 2 | 6,8,11 | 4.7 |
| BLO40 | 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 | 11.0 |
| BN005 | Nakai, N. Inoue, M. Miyoshi, M. Hagiwara, Y. Diamond, P. | NAO NAO Mitzusawa Graduate University NRAO-Socorro | Water megamaser newly detected in a radio galaxy | | 1.3 with phased VLA | 15 | 12.0 |
| BP033 | Polatidis, A.G. Conway, J.E. Xu, W. Wilkinson, P.N. Readhead, A.C.S. Pearson, T.J. Vermeulen, R.C. Taylor, G. | Onsala Onsala JPL Jodrell Bank Caltech Caltech NFRA NRAO-Socorro | Confirmation of candidate compact symmetric objects from PR and CJ1 | | 2, 3.6, 18 | 23 | 20.0 |
| BS054 | Spencer, R.E. Stirling, A.M. Newell, S.J. Garrett, M.A. | Jodrell Bank Jodrell Bank Jodrell Bank JIVE | Anomalous expansion in Cygnus X-3 | 2 | | 22, 24 | 21.0 |
| BS055 | Shen, Z.-Q. Lo, K.Y. Zhao, J.-H. Ho, P.T.P. | CfA Illinois CfA CfA | Multi-wavelength VLBA Imaging of Sgr A* | | 0.7, 1.3, 2, 3.6, 6 with VLA single antenna | 7, 12, 14 | 24.0 |
| BT027 | Tingay, S.J. Preston, R.A. Jones, D.L. Murphy, D.W. Meier, D.L. Jauncey, D.L. Edwards, P.G. Costa, M.E. | JPL JPL JPL JPL JPL ATNF ISAS Tasmania | EGRET-identified radio sources in the southern hemisphere | | 6 | 17 | 20.0 |
| BT030 | Taylor, G. Marr, J. Crawford, F. | NRAO-Socorro Union MIT | Evolution of CSO 0108+388 | | 2, 3.6 | 3 | 12.0 |
| BU008 | Ulvestad, J. Roy, A. Colbert, E. Wilson, A. Norris, R. | NRAO-Socorro NRAO-Socorro STScI Maryland ATNF | Radio structure of Seyfert nuclei on Parsec scales | | 2, 3.6, 6, 18 | 5 | 22.5 |

VLBA Utilization Report February 1997

| Progm | Observer | Affiliation | Program Title | Stns | Bands cm | Observing Date | Sched Hours |
|-------|---|---|--|------|------------------------------------|-------------------|----------------|
| GG030 | Giovannini, G. Cotton, W.D. Feretti, L. Lara, L. Venturi, T. | Bologna NRAO-CV Bologna IAA Bologna | The BL-Lac Mkn 421 | S | 6cm w/EVN | 17 | 5.5 |
| 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 phased VLA, Eb, Nt | 25 | 10.0 |
| 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 | 2 | 12.0 |
| GP015 | Polatidis, A.G. Wilkinson, P.N. | Onsala Jodrell Bank | Monitoring the dramatic changes in the nuclear jet of 3C380 | | 6 | 21 | 11.0 |
| VT009 | Gurvits, L. | JIVE | Qualification tests for VSOP ground telescopes | | | 20 | 2.5 |
| | Staff | NRAO | Maintenance Software | | | | 96.0 23.0 |

The average downtime was 3.5% (12.5 hours)

Actual observing time was 337.5 hours

The VLBA was scheduled 72% of the time (488.0 hours of a possible
672 hours)

Astronomical Observations = 52% (350.0 hours)

Tests and Calibrations = 10% (70.0 hours)

Maintenance = 10% (68.0 hours)

Total Number of astronomical programs was 21

VLBA Utilization Report January 1997

| Progm | Observer | Affiliation | Program Title | Stns | Bands cm | Observing Date | Sched Hours |
|-------|---|--|--|------|---------------------------------|-------------------|----------------|
| BA024 | Attridge, J.M. Homan, D.C. Roberts, D.H. Wardle, J.F.C. | Brandeis Brandeis Brandeis Brandeis | Deep VLBA imaging of four blazars with distorted structures | | 6 with VLA single antenna | 24 | 24.0 |
| BB069 | Beasley, A.J. | NRAO-Socorro | FK Comae | | 3.6, 6 | 3 | 11.25 |
| 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, 0.7 | 6 | 5.5 |
| BC065 | Clark, T. Ma, C. Ryan, J. Vandenberg, N. Himwich, E. Gordon, D. Eubanks, M. Fey, A. Gaume, R. Fomalont, E. Walker, C. | NASA-GFSC NASA-GSFC NASA-GSFC NVI-GSFC NVI-GSFC Hughes USNO USNO USNO NRAO-CV NRAO-Socorro | VLBA Geodesy/Astrometry observations for 1997 | | 3.6 | 30 | 24.0 |
| BE013 | Ellingsen, S.P. Norris, R.P. Diamond, P.J. Phillips, C.J. McCulloch, P.M. | Tasmania ATNF NRAO-Socorro Tasmania Tasmania | Proper motion study of 12 GHz methanol masers | | 2 | 31 | 24.0 |
| BF024 | Fey, A. Desai, K. | USNO NRAO-CV | Shape of scatter broadened images | | 18, 90 | 12 | 10.0 |
| BF025 | Fey, A. Gaume, R. Johnston, K. Eubanks, M. Ma, C. Fomalont, E. | USNO USNO USNO USNO NASA-GSFC NRAO-CV | Celestial reference frame: defining the "Super-calibrators" | | 3.6 | 10 | 48.0 |
| 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, 0.7 | 16 | 12.0 |
| BG062 | Greenhill, L.J. Herrnstein, J.R. Trotter, A.S. Moran, J.M. DePree, C. Cecil, G. | CfA CfA CfA CfA Agnes Scott North Carolina | Jet structure in NGC 4258 | | 18 with phased VLA and GB | 7 | 12.5 |
| BG065 | Garrett, M.A. Patnaik, A.R. Nair, S. Porcas, R.W. Leppanen, K. | JIVE MPIfr Jodrell Bank MPIfr JIVE | Multi-epoch polarization observations of lens 1830-211 | | 0.7 | 19 | 6.0 |
| BH034 | Hough, D.H. Vermeulen, R.C. Readhead, A.C.S. | Trinity NFRA Caltech | Tests of AGN unification: completion of first-epoch imaging | | 3.6 | 26 | 24.0 |
| BH035 | Hough, D.H. Vermeulen, R.C. Readhead, A.C.S. | Trinity NFRA Caltech | Tests of AGN unification: completion of first-epoch imaging | | 3.6 | 27 | 24.0 |
| BI005 | Imai, H. Sasao, T. Miyoshi, M. Kameya, O. Deguchi, S. Asaki, Y. | Tohoku Mizusawa Mizusawa Mizusawa Nobeyama Graduate Univ. | Proper motions of water masers in W3 IRS 5 | | 1.3 | 17 | 10.0 |
| BJ025 | Jauncey, D.L. Reynolds, J.E. Kedziora-Chudczer, Walker, M.A. Nicolson, G. Wieringa, M.H. King, E.A. Tzioumis, A.K. McCulloch, P. Gabuzda, D. | ATNF ATNF Sydney Univ Sydney Univ Hartebeesthoek ATNF ATNF ATNF Tasmania Lebedev | Monitoring of the intra-day variable PKS 0405-385 | | 2, 3.6 | 29 | 7.0 |

VLBA Utilization Report January 1997

| Progm | Observer | Affiliation | Program Title | Stns | Bands cm | Observing Date | Sched Hours |
|-------|--|--|--|------|---|-------------------|-----------------------|
| BK047 | Kollgaard, R.I. Gabuzda, D.C. Laurent-Muehleisen, | Fermilab Lebedev Lawrence Livermore | Polarization survey of ROSAT-Green Bank BL Lacertae objects | | 6 | 20 | 23.5 |
| BL048 | van Langevelde, H. Schilizzi, R. Diamond, P. | JIVE JIVE NRAO-Socorro | Parallax of nearby Miras | | 18 | 29 | 8.25 |
| BR043 | Roy, A.L. Claussen, M.J. Diamond, P.J. Wrobel, J.M. DePree, C. Greenhill, L.J. Herrnstein, J.R. Moran, J.M. | NRAO-Socorro NRAO-Socorro NRAO-Socorro NRAO-Socorro Agnes Scott Cfa Cfa Cfa | Nonthermal nucleus of NGC 4258 | | 2, 6 with phased VLA, EB | 4, 5 | 23.5 |
| BR047 | Ratner, M.I. Bartel, N. Lebach, D.E. Lestrade, J-F. Shapiro, I.I. | Cfa York Cfa Meudon Cfa | Astrometry of IM Peg for gravity probe-b mission | | 3.6 with phased VLA, DSN, EB, GB | 16, 18 | 33.0 |
| BT028 | Tingay, S.J. Preston, R.A. Jones, D.L. Murphy, D.W. Meier, D.L. Jauncey, D.L. Reynolds, J.E. Tzioumis, A.K. McCulloch, P. Lovell, J.E.J. Costa, M.E. | JPL JPL JPL JPL JPL ATNF ATNF ATNF Tasmania Tasmania Tasmania | Monitoring of Centaurus A at 8.4 and 22 GHz | | 1.3, 3.6 | 23 | 8.5 |
| BT029 | Taylor, G. | NRAO-Socorro | Investigating extreme faraday rotation measures in quasar cores | | 2, 3.6, 6 | 25 | 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 | 15 | 12.0 |
| VT008 | Gurvits, L. | JIVE | Qualification tests for VSOP ground telescopes | | | 13 | 4.75 |
| | Staff | NRAO | Maintenance Software 3mm fringe tests | | | | 114.0 22.5 11.0 |
| | | | | PK | 0.3 | 9 | |

The average downtime was 4.0% (14.7 hours)

Actual observing time was 352.8 hours

The VLBA was scheduled 83% of the time (587.50 hours of a possible
708 hours)

Astronomical Observations = 52% (367.5 hours)

Tests and Calibrations = 21% (150.0 hours)

Maintenance = 10% (70.0 hours)

Total Number of astronomical programs was 22