

## VLBA Utilization Report December 2006

| Progm | Observer   | Affiliation   | Program Title  | Stns | Bands<br>cm                     | Observing<br>Date | Sched<br>Hours |
|-------|--|---|--|------|---------------------------------|-------------------|----------------|
| BA080 | Asada, K.<br>Inoue, M.   | NAOJ<br>NAOJ  | Trimonthly monitoring observation of the helical magnetic field in 3C 273 jet              |      | 2,4,6                           | 3                 | 8.0            |
| BB209 | Boyce, E.<br>Hewitt, J.<br>Myers, S.T.   | MIT<br>MIT<br>NRAO-Socorro  | Observations of gravitational lens central images  |      | 6 With AR,<br>GB, Y27           | 3                 | 2.5            |
| BB225 | Bartkiewicz, A.<br>Brunthaler, A.<br>Szymczak, M.<br>van Langevelde, H.  | Torun<br>MPIfR<br>Torun<br>JIVE   | Nature of methanol maser ring around a young massive star                                  |      | 2                               | 14                | 10.0           |
| BB227 | Braatz, J.A.   | NRAO-GB   | Imaging the water megamaser in galaxy UGC 3789   |      | 1.3 With<br>EB, GB              | 10                | 12.0           |
| BB228 | Bietenholz, M.F.<br>Bartel, N.<br>Rupen, M.  | York U.<br>York U.<br>NRAO-Socorro  | Evolution of central source in SN 1986J  |      | 1.3, 3.6<br>With EB,<br>GB, Y27 | 3, 10             | 30.0           |
| BB231 | Braatz, J.A.<br>Greenhill, L.J.<br>Condon, J.J.<br>Reid, M.<br>Henkel, C.<br>Lo, K.Y.  | NRAO-GB<br>Cfa<br>NRAO-CV<br>Cfa<br>MPIfR<br>NRAO-CV  | Megamaser Cosmology Project: Measuring Distances to NGC6323 and Mrk1419                    |      | 1.3 With<br>EB, GB              | 23, 27,<br>29, 30 | 40.0           |
| BB233 | Bietenholz, M.F.<br>Bartel, N.   | York U.<br>York U.  | Does the Ursa Minor Dwarf Spheroidal Host an Intermediate-Mass BlackHole                   |      | 6 With EB,<br>GB                | 11                | 8.0            |
| BB234 | Boyce, E.<br>Winn, J.N.<br>Myers, S.T.   | MIT<br>MIT<br>NRAO-Socorro  | Investigating the Third Radio Source in B2319+051  |      | 6, 18 With<br>AR, GB,<br>Y27    | 21                | 10.0           |
| BL128 | Loinard, L.<br>Mioduszewski, A.<br>Rodriguez, L.<br>Torres, R.M.   | UNAM<br>NRAO-Socorro<br>UNAM<br>UNAM  | Distance to Taurus and Ophiuchus from multi-epoch VLBA observations                        |      | 4                               | 20,22             | 8.0            |
| BL137 | Lister, M.<br>Aller, H.D.<br>Aller, M.F.<br>Arshakian, T.<br>Roman, D.<br>Kadler, M.<br>Kellermann, K.<br>Kovalev, Y.Y.<br>Lobanov, A.<br>Ros, E.<br>Vermeulen, R.<br>Zensus, J. | Purdue<br>Michigan<br>Michigan<br>MPIfR<br>Denison<br>MPIfR<br>NRAO-CV<br>NRAO<br>MPIfR<br>MPIfR<br>ASTRON<br>MPIfR | MOJAVE II Program  |      | 2,4                             | 1,30              | 28.0           |
| BL147 | Loinard, L.<br>Mioduszewski, A.<br>Rodriguez, L.F.<br>Torres, R.A.   | UNAM<br>NRAO-Socorro<br>UNAM<br>UNAM  | Mapping out the distribution of nearby star forming regions and molecular complexes        |      | 4                               | 20                | 5.0            |
| BM247 | Marscher, A.P.<br>Aller, J.F.<br>Chatterjee, R.<br>Jorstad, S.<br>McHardy, I.  | Boston<br>Michigan<br>Boston<br>Boston<br>Southampton   | Relation between the X-ray state and energy flow into jets of radio galaxies               |      | 0.7                             | 17                | 24.0           |
| BM253 | Momjian, E.<br>Knudsen, K.K.<br>Carilli, C.<br>Wang, W.-H.   | Arecibo<br>MPIA<br>NRAO-Socorro<br>Hawaii   | Compact Radio Emission of the Luminous SMG GOODS 850-3 at z=1.8                            |      | 18 With<br>GB, Y27              | 9                 | 7.0            |
| BP133 | Petrov, L.<br>Fomalont, E.<br>Gordon, D.<br>Kovalev, Y.Y.  | NASA<br>NRAO-CV<br>NASA<br>ASC  | Follow-up of VLBA calibrator survey  |      | 4,13                            | 18                | 24.0           |
| BS150 | Savolainen, T.<br>Rastorgueva, E.<br>Takalo, L.<br>Valtaoja, E.<br>Valtonen, M.<br>Wiik, K.  | Tuorla<br>Tuorla<br>Tuorla<br>Tuorla<br>Tuorla<br>Tuorla  | Multi-frequency polarimetric VLBA monitoring of next predicted outburst in OJ287           |      | 0.3,0.7,1,<br>2,4               | 6                 | 8.0            |
| BS160 | Shen, Z.<br>Chen, X.<br>Jiang, D.  | ShAO<br>ShAO<br>ShAO  | Simultaneous observations of three 7mm SiO masers toward VX Sgr at five epochs             |      | 0.7                             | 15                | 8.0            |
| BW086 | Wiik, K.<br>Savolainen, T.   | Tuorla<br>Tuorla  | Multi-frequency polarimetric VLBA follow up of 3C454.3 after the historic outburst in 2005 |      | 0.3, 0.7,<br>1,2,4,6            | 4                 | 12.0           |

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| Progm  | Observer  | Affiliation  | Program Title   | Stns | Bands cm                 | Observing Date       | Sched Hours |
|--------|---|--|---|------|--------------------------|----------------------|-------------|
| GCO28  | Conway, J.E.<br>Parra, R.<br>Diamond, P.<br>Lonsdale, C.J.<br>Hurley, R.<br>Thrall, H.<br>Lonsdale, C.J.<br>Smith, H.E.   | Onsala<br>Onsala<br>Jodrell Bank<br>Haystack<br>Onsala<br>Jodrell Bank<br>Caltech-IPAC<br>CFA                              | Sensitive high frequency observations of the compact sources in Arp 220 |      | 2 with EB, Y27           | 28                   | 14.0        |
| RDV060 | Johnston, K.<br>Fey, A.<br>Ma, C.<br>Gordon, D.<br>Boboltz, D.<br>Kingham, K.<br>Behrend, D.<br>Gipson, J.<br>MacMillan, D.<br>Petrov, L.<br>Fomalont, E.<br>Walker, C. | USNO<br>USNO<br>NASA-GSFC<br>Raytheon-GSFC<br>USNO<br>USNO<br>NVI-GSFC<br>NVI-GSFC<br>NASA-GSFC<br>NRAO-CV<br>NRAO-Socorro | Geodesy/astrometry observations for 2006                                |      | 3.6 With HoKbNyOnTs WfWz | 6 Scheduled as RDV60 | 24.0        |
|        | Staff   | NRAO   | Maintenance   |      |                          |                      | 91.0        |

Based on Actual Hours Observed

The average downtime was 17.5 hours 6.2%

Actual observing time was 265.0 hours

The VLBA was scheduled 55.2% of the time 391.8 hours of a possible 716 hours (744-24 - 4 due to Xmas and New Years shutdown)

Astronomical Observations = 40.0% (282.5 hours)  
 Tests and Calibrations = 5.7% ( 41.3 hours)  
 Maintenance = 9.5% ( 68.0 hours)

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 Based on Scaled Observing Hours

Number of scaled hours of astronomical observations = 586.1 hrs

Downtime = 6.2% (36.3 hours)

Actual observing = 548.8 hours

## VLBA Utilization Report November 2006

| Progm | Observer   | Affiliation  | Program Title   | Stns | Bands<br>cm                           | Observing<br>Date | Sched<br>Hours |
|-------|--|--|---|------|---------------------------------------|-------------------|----------------|
| BA078 | Agudo, I.<br>Bach, U.<br>Gomez, J.L.<br>Krichbaum, T.<br>Roy, A.<br>Roy, A.<br>Witzel, A.<br>Zensus, J.A.  | MPIfR<br>Torino<br>IAA<br>MPIfR<br>MPIfR<br>MPIfR<br>MPIfR   | Monitoring NRAO 150 with multi-frequency polarimetry        |      | 2,4,07,1                              | 23                | 12.0           |
| BA082 | Agudo, I.<br>Gomez, J.L.<br>Jorstand, S.<br>Lobanov, A.<br>Marscher, A.<br>Marti, J.<br>Perucho, M.<br>Roca-Sogorb, M.<br>Roy, A.  | MPIfR<br>IAA<br>Boston<br>MPIfR<br>Boston<br>Valencia<br>MPIfR<br>IAA<br>MPIfR   | Astrometry of wobbling jets in blazars                      |      | 0.7, 1                                | 16                | 16.0           |
| BC167 | Cheung, C.<br>Harris, D.E.<br>Junor, W.  | Stanford<br>SAO<br>LANL  | Continued monitoring of Knot 'HST-1' in the M87 Jet         |      | 20                                    | 11                | 7.80           |
| BD114 | Dougherty, S.<br>Pittard, J.<br>O'Connor, E.<br>Beasley, A.J.<br>Claussen, M.J.  | DRAO<br>Leeds<br>UPEI<br>NRAO-Santiago<br>NRAO-Socorro   | Structural monitoring of colliding-wind binary WR140        |      | 0.7, 1.3,<br>2, 3.6, 6,<br>18 With Y1 | 5                 | 12.0           |
| BE044 | Edwards, P.<br>Falcone, A.<br>Horan, D.<br>Jung, I.<br>Krawczynski, H.<br>Piner, G.  | ISAS<br>Penn State<br>SAO<br>Washington Univ.<br>Washington Univ.<br>Whittier  | Doppler crisis  |      | 6                                     | 1,21              | 12.0           |
| BH136 | Brunthaler, A.<br>Hachisuka, K.<br>Hagiwara, Y.<br>Menten, K.<br>Mochizuki, N.<br>Reid, M.   | JIVE<br>MPIfR<br>NAOJ<br>MPIfR<br>ISAS<br>Cfa  | Astrometry of H2O maser sources in outer part of the galaxy |      | 1                                     | 29                | 6.0            |
| BI033 | Imai, H.<br>Deguchi, S.<br>Kwok, S.<br>Nakashima, J.   | Kagoshima<br>Nobeyama<br>Hong Kong<br>ASIAA  | Mapping two newly found water fountains with the VLBA       |      | 1                                     | 9                 | 8.0            |
| BL137 | Lister, M.<br>Aller, H.D.<br>Aller, M.F.<br>Arshakian, T.<br>Homan, D.<br>Kadler, M.<br>Kellermann, K.<br>Kovalev, Y.Y.<br>Lobanov, A.<br>Ros, E.<br>Vermeulen, R.<br>Zensus, J.A. | Purdue<br>Michigan<br>Michigan<br>MPIfR<br>Denison<br>MPIfR<br>NRAO-CV<br>NRAO-GB<br>MPIfR<br>MPIfR<br>ASTRON<br>MPIfR | MOJAVE II Program   |      | 2,4                                   | 10                | 24.0           |
| BL147 | Loinard, L.<br>Mioduszewski, A.<br>Rodriguez, L.<br>Torres, R.   | UNAM<br>NRAO-Socorro<br>UNAM<br>UNAM   | Mapping out the distribution of nearby star-forming regions |      | 4                                     | 3,8               | 10.0           |
| BM132 | Migenes, V.<br>Altunin, V.<br>Horiuchi, S.<br>Ludke, E.<br>Mendoza, E.<br>Slysh, S.  | Guanajuato<br>JPL<br>NAOJ<br>CCNE<br>INAOE<br>ASC  | Search for small angular sized OH maser regions             |      | 20                                    | 19                | 5.0            |
| BM239 | Moscadelli, L.<br>Claussen, M.<br>Furuya, R.<br>Goddi, C.<br>Kitamura, Y.<br>Testi, L.<br>Wootten, A.  | Cagliari<br>NRAO-Socorro<br>Caltech<br>Cagliari<br>ISAS<br>Arcetri<br>NRAO-CV  | Absolute proper motions of H2O masers in Serpens SMM1       |      | 1                                     | 1,26              | 16.0           |

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|-------|--|---|---|------|--------------------------------------|-------------------|----------------|
| BM248 | Marscher, A.<br>Aller, M.F.<br>D'Arcangelo, F.<br>Hagen-Thorn, V.<br>Jorstad, S.<br>Larionov, V.<br>McHardy, J.  | Boston<br>Michigan<br>Boston<br>St. Petersburg<br>Boston<br>St. Petersburg<br>Southampton   | Probing compact jets through multi<br>waveband variability and polarization                             |      | 0.7                                  | 17                | 16.0           |
| BM251 | Miller, N.<br>Wrobel, J.<br>Ho, L.C.   | Johns Hopkins<br>NRAO-Socorro<br>Carnegie Obs.  | HSA Observations of the Intermediate-Mass<br>Black Hole in J170902+641728                               |      | 18 With<br>GB, Y27                   | 2                 | 8.0            |
| BM252 | Majid, W.<br>Bagri, D.<br>Fomalont, E.   | JPL<br>JPL<br>NRAO-CV   | Compactness of weak radio sources at high<br>frequencies  |      | 4, 13                                | 6,13              | 20.0           |
| BP128 | Peck, G.<br>Marrone, D.<br>Myers, S.<br>Taylor, G.<br>Zavala, B.   | CfA<br>Harvard<br>NRAO<br>UNM<br>USNO   | Multi-wavelength analysis of the record<br>outburst in 3C454.3  |      | 1,2,4,6                              | 27                | 6.0            |
| BP131 | Piner, B.G.<br>Edwards, P.G.   | Whittier<br>ISAS  | Toward establishing a confirmed sample of<br>ultra relativistic jets                                    |      | 0.7                                  | 18                | 12.0           |
| BP134 | Piner, B.G.<br>Edwards, P.G.<br>Jones, D.L.  | Whittier<br>CSIRO<br>JPL  | Persistent 26c component in the blazar<br>0827+243  |      | 0.7, 4                               | 29                | 6.0            |
| BP138 | Petrov, L.<br>Gipson, J.<br>Gordon, D.<br>Ma, C.<br>MacMillan, D.  | NVI<br>NVI<br>Raytheon<br>NASA-GSFC<br>NVI  | Measurement of post-seismic displacement<br>of MK-VLBA caused by the Hawaii earthquake<br>on 2006.10.15 |      | 4,13                                 | 8                 | 24.0           |
| BS169 | Stanghellini, C.<br>Venturi, T.<br>Dallacasa, D.<br>Tao, A.<br>Xiao-Yu, Hong   | Bologna<br>Bologna<br>Bologna<br>Shanghai<br>Shanghai   | Hot spot separation velocity in three<br>compact symmetric objects                                      |      | 4                                    | 3                 | 16.25          |
| BT088 | Taylor, G.<br>Fassnacht, C.<br>Healey, S.<br>Helmboldt, J.<br>Myers, S.<br>Pearson, T.<br>Readhead, T.<br>Romani, R.<br>Sjouerman, L.<br>Walker, C.<br>Weintraub, L. | UNM<br>Calif.-Davis<br>Stanford<br>UNM<br>NRAO-Socorro<br>Caltech<br>Caltech<br>Stanford<br>NRAO-Socorro<br>NRAO-Socorro<br>Caltech | Investigating supermassive binary black<br>hole candidates  |      | 2,4,6                                | 4,22              | 34.0           |
| BV059 | Vlemmings, W.H.T.<br>Torrelles, J.<br>vanLangevelde, H.  | Manchester<br>Barcelona<br>JIVE   | Co-evolution of methanol and water maser<br>filaments in Cepheus A starforming region                   |      | 1                                    | 25                | 5.0            |
| BW077 | Walker, C.<br>Benson, J.<br>Hardee, P.   | NRAO-Socorro<br>NRAO-Socorro<br>Alabama   | Constraining possible helical flow in 3C<br>120 at 1.7 GHz  |      | 20                                   | 17                | 12.50          |
| GA023 | Anderson, J.M.<br>Noordam, J.  | JIVE<br>Dwingeloo   | Wide-field ionospheric calibration for<br>VLBI  |      | 90 For<br>correlation<br>at JIVE     | 27, 28            | 4.0            |
| GC028 | Conway, J.E.<br>Parra, R.<br>Diamond, P.<br>Lonsdale, C.J.<br>Hurley, R.<br>Thrall, H.<br>Lonsdale, C.J.<br>Smith, H.E.  | Onsala<br>Onsala<br>Jodrell Bank<br>Haystack<br>Onsala<br>Jodrell Bank<br>Caltech-IPAC<br>CFA                                       | Sensitive high frequency observations of<br>the compact sources in Arp 220                              |      | 2, 3.6 For<br>correlation<br>at JIVE | 28                | 14.0           |
|       | Staff  | NRAO  | Maintenance   |      |                                      |                   | 98.0           |

Based on Actual Hours Observed

The average downtime was 7.97 hours 2.6%

Actual observing time was 298.8 hours

The VLBA was scheduled 60.6% of the time 431.05 hours of a possible 720 hours

|                           |   |       |                |
|---------------------------|---|-------|----------------|
| Astronomical Observations | = | 42.6% | (306.55 hours) |
| Tests and Calibrations    | = | 8.0%  | ( 55.5 hours)  |
| Maintenance               | = | 10.0% | ( 70.0 hours)  |

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Based on Scaled Observing Hours

Number of hours of observing possible = 720 hours

Number of scaled hours of astronomical observations = 410.15 hrs

Downtime = 2.6% (10.66 hours)

Actual observing = 399.47 hours

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|-------|--|--|--|------|-------------|-----------------------|----------------|
| BE044 | Edwards, P.<br>Falcone, A.<br>Horan, D.<br>Jung, I.<br>Krawczynski, H.<br>Piner, G.  | ISAS<br>Penn State<br>SAO<br>Washington Univ.<br>Washington Univ.<br>Whittier  | Doppler Crisis of TeV sources  |      | 1           | 15,16,17,2<br>2,25,27 | 32.0           |
| BE047 | Edwards, P.<br>Piner, G.   | ISAS<br>Whittier   | PG 1553+113 - new TeV blazar   |      | 1           | 30                    | 10.0           |
| BJ061 | Jones, D.<br>Border, J.<br>Fomalont, E.<br>Preston, B.<br>Romney, J.<br>Standish, M.   | JPL<br>JPL<br>NRAO-CV<br>JPL<br>NRAO-Socorro<br>JPL  | Improvement of Saturn Ephemeris through<br>VLBA Obs. of Cassini Spacecraft       |      | 4           | 11                    | 3.0            |
| BK132 | Kharb, P.<br>Baum, S.<br>O'Dea, C.   | Rochester<br>Rochester<br>Rochester  | Radio core in Markarian 6  |      | 6,20        | 20                    | 12.0           |
| BL137 | Lister, M.<br>Aller, H.D.<br>Aller, M.F.<br>Arshakian, T.<br>Roman, D.<br>Kadler, M.<br>Kellermann, K.<br>Kovalev, Y.<br>Lobanov, A.<br>Ros, E.<br>Vermeulen, R.<br>Zensus, J.A. | Purdue<br>Michigan<br>Michigan<br>MPIfR<br>Denison<br>MPIfR<br>NRAO-CV<br>NRAO-CV<br>MPIfR<br>MPIfR<br>ASTRON<br>MPIfR | MOJAVE II Program  |      | 2,4         | 6                     | 24.0           |
| BL139 | Lobanov, A.<br>Alef, W.<br>Arshakian, T.<br>Chavushyan, V.<br>Mercado, A.<br>Shapovalova, A.   | MPIfR<br>MPIfR<br>MPIfR<br>INAOE<br>INAOE<br>SAO   | Parsec-scale radio emission, accretion<br>disk and broad line region in 3C 390.3 |      | 0.7,1,2     | 1                     | 8.0            |
| BM247 | Marscher, A.<br>Aller, M.F.<br>Chatterjee, S.<br>Jorstad, S.<br>McHardy, I.  | Boston<br>Michigan<br>Boston<br>Boston<br>Southampton  | Relation between the X-ray state and<br>energy flow into jets of radio galaxies  |      | 0.7         | 5                     | 24.0           |
| BM248 | Marscher, A.<br>Aller, M.F.<br>D'Arcangelo, F.<br>Hagen-Thorn, V.<br>Jorstad, S.<br>Larionov, V.<br>McHardy, I.  | Boston<br>Michigan<br>Boston<br>St. Petersburg<br>Boston<br>St. Petersburg<br>Southampton                              | Probing compact jets through<br>multi-waveband variability and<br>polarization   |      | 0.7         | 11                    | 16.0           |
| BP125 | Petrov, L.<br>Fomalont, E.<br>Gordon, D.<br>Honma, M.<br>Kobayashi, H.<br>Kovalev, Y.Y.  | NVI<br>NRAO-CV<br>NASA GSFC<br>NAOJ<br>NAOJ<br>NVI   | GaPS: Galactic Plane Survey  |      | 1           | 20                    | 24.0           |
| BP136 | Perez-Torres, M.<br>Alberdi, A.<br>Cortina, J.<br>Guerrero, M.<br>Prada, F.<br>Rico, J.<br>Sanchez-Conde, M.<br>Sidro, N.  | IAA<br>IAA<br>IFAE<br>IAA<br>IAA<br>IFAE<br>IAA<br>IFAE  | VLBA Imaging of gamma ray binary LSI+61<br>303                                   |      | 6           | 25,26                 | 11.0           |
| BR100 | Reid, M.<br>Greenhill, L.<br>Menten, K.<br>Moscadelli, L.<br>Xu, Y.<br>Zheng, X.W.   | CFA<br>CFA<br>MPIfR<br>Cagliari<br>Nanjing<br>Nanjing  | Spiral structure and kinematics of the<br>Milky Way                              |      | 2           | 4,7,19                | 39.75          |
| BR121 | Reid, M.<br>Brunthaler, A.<br>Menten, K.<br>Xu, Y.<br>Zheng, X.-W.   | CFA<br>MPIfR<br>MPIfR<br>MPIfR<br>Nanjing  | Trigonometric parallax for the Galactic<br>Center                                |      | 1           | 9,24                  | 16.0           |

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|-------|---|--|--|------|----------------------|----------------------------------|----------------|
| BS170 | Stark, D.<br>Churchwell, E.<br>Fish, V.<br>Goss, M.<br>Hoffman, I.  | Caltech<br>Wisconsin<br>NRAO-Socorro<br>NRAO-Socorro<br>Cleriq Arts & Scienc       | Speedy OH Masers in G5.886-0.39                              |      | 20                   | 8,15                             | 6.0            |
| BT087 | Tafoya, D.<br>Gomez, Y.<br>Patel, N.<br>Reid, M.  | CfA<br>UNAM<br>CfA<br>CfA  | Rotating magnetized disk in young<br>planetary nebula K3-35  |      | 20                   | 14                               | 9.25           |
| BW086 | Wiik, K.<br>Savolainen, T.  | Tuorla<br>Tuorla   | Multi-frequency polarimetric VLBA follow<br>up of 3C454.3    |      | 0.3, 0.7,<br>1,2,4,6 | 2                                | 12.0           |
| BZ034 | Zavala, R.T.<br>Boboltz, D.<br>Hutter, D.<br>Ojha, R.<br>Richards, M.<br>Shaffer, D.<br>Tycner, C.                    | USNO<br>USNO<br>USNO<br>USNO<br>Penn State<br>Radiometrics<br>USNO                 | Testing the radio emission in Algol                          |      | 6                    | 25, 26,<br>27, 28,<br>29, 30, 31 | 70.0           |
| GA022 | Agudo, I.<br>Krichbaum, T.P.<br>Gomez, J-L.<br>Bach, U.<br>Bremer, M.<br>Witzel, A.<br>Zensus, J.A.                   | MPIfR<br>MPIfR<br>IEEC-Barcelona<br>Torino<br>IRAM<br>MPIfR<br>MPIfR               | Polarimetric monitoring of NRAO 150                          |      | 0.3                  | 12                               | 12.0           |
| GD022 | Dodson, R.<br>Agudo, I.<br>Krichbaum, T.P.<br>Thum, C.<br>Wiesemeyer, H.<br>Rioja, M.J.<br>Bremer, M.                 | OAN-Yebes<br>IAA<br>MPIfR<br>IRAM<br>IRAM<br>OAN<br>IRAM                           | Polarisation observations with GMVA                          |      | 0.3                  | 13                               | 5.0            |
| GK037 | Kudryavtseva, N.<br>Britzen, S.<br>Krichbaum, T.P.<br>Witzel, A.<br>Zensus, J.A.<br>Larionov, V.M.<br>Hagen-Thorn, V. | MPIfR<br>Heidelberg<br>MPIfR<br>MPIfR<br>MPIfR<br>St. Petersburg<br>St. Petersburg | Monitoring of BL Lac object S5 1803+784                      |      | 0.3                  | 13                               | 12.0           |
| GR026 | Rastorgueva, E.A.<br>Wiik, K.<br>Savolainen, T.<br>Takalo, L.<br>Krichbaum, T.P.                                      | Tuorla<br>Tuorla<br>Tuorla<br>Tuorla<br>MPIfR                                      | Monitoring the next predicted outburst in<br>OJ287 at 86 GHz |      | 0.3                  | 14                               | 11.0           |
|       | Staff   | NRAO   | Maintenance  |      |                      |                                  | 101.0          |

Based on Actual Hours Observed

The average downtime was 15.4 hours 4.3%

Actual observing time was 341.6 hours

The VLBA was scheduled 64.4% of the time 480.8 hours of a possible 744 hours

Astronomical Observations = 47.9% (357.0 hours)  
 Tests and Calibrations = 6.2% (46.8 hours)  
 Maintenance = 10.3% (77.0 hours)

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 Based on Scaled Observing Hours

Number of hours of observing possible = 744 hours

Number of scaled hours of astronomical observations = 450.4 hrs

Downtime = 4.3% (19.4 hours)

Actual observing = 431.0 hours

## VLBA Utilization Report September 2006

| Progm | Observer   | Affiliation  | Program Title   | Stns | Bands<br>cm                                | Observing<br>Date           | Sched<br>Hours |
|-------|--|--|---|------|--|-----------------------------|----------------|
| BA080 | Asada, K.<br>Inoue, M.   | NAOJ<br>NAOJ   | Trimonthly monitoring observation of the helical magnetic field in 3C 273 jet   |      | 2,4,6                                      | 3                           | 8.0            |
| BB213 | Briskin, W.<br>Romani, R.  | NRAO-Socorro<br>Stanford   | Pulsar J0538+2817: four more epochs   |      | 20   | 4                           | 2.0            |
| BB225 | Bartkiewicz, A.<br>Brunthaler, A.<br>Szymczak, M.<br>vanLangevelde, H.   | Torun<br>MPIFR<br>Torun<br>JIVE  | Nature of the methanol maser ring around a young massive star                   |      | 2  | 21                          | 10.0           |
| BC157 | Claussen, M.<br>Bond, H.<br>Evans, A.<br>Gehrz, R.<br>Healy, K.<br>Rushton, M.<br>Starrfield, S.<br>Woodward, C.   | NRAO-Socorro<br>STSci<br>Keele<br>Minnesota<br>ASU<br>Keele<br>ASU<br>Minnesota  | SiO masers in V838 Monocerotis  |      | 0.7  | 28                          | 8.0            |
| BC161 | Cotton, W.<br>Danchi, W.<br>Lacasse, M.<br>Ragland, S.<br>Schloerb, F.<br>Townes, C.<br>Traub, W.  | NRAO-CV<br>NASA<br>Cfa<br>Cfa<br>UMASS<br>Calif., Berkeley<br>Cfa  | Miras w/photospheric asymmetries II   |      | 0.7  | 16                          | 10.0           |
| BF091 | Frey, S.<br>Gurvits, L.<br>Paragi, Z.  | FOMISGO<br>JIVE<br>JIVE  | Structure of extremely high redshift quasar J1430+4204 after a long range flare |      | 2  | 15                          | 8.0            |
| BH136 | Hachisuka, K.<br>BRunthaler, A.<br>Hagiwara, Y.<br>Menten, K.<br>Mochizuki, N.<br>Reid, M.   | MPIFR<br>JIVE<br>NAOJ<br>MPIFR<br>ISAS<br>Cfa  | Astrometry of H2O masers in outer part of the galaxy                            |      | 1  | 20                          | 6.0            |
| BH145 | Helfand, D.<br>Briskin, W.<br>Camilo, F.<br>Chatterjee, S.<br>Halpern, J.<br>Ransom, S.<br>Zimmerman, N.   | Columbia<br>NRAO-Socorro<br>Columbia<br>Cfa<br>Columbia<br>NRAO<br>Columbia  | First magnetar proper motion from the transient AXP XTE J1810-197               |      | 4,6  | 16                          | 4.0            |
| BI033 | Imai, H.<br>Deguchi, S.<br>Kwok, S.<br>Nakashima, J.   | Kagoshima<br>Nobeyama<br>Hong Kong<br>ASIAA  | Mapping two newly found water fountains with the VLBA                           |      | 1  | 14                          | 8.0            |
| BJ045 | Junor, B.  | LANL   | Deep 3mm obs. of Virgo A Core   |      | 0.3, 0.7                                   | 10,22,25                    | 18.75          |
| BJ060 | Johnston, K.   |  | Geodesy/astrometry observations for 2006  |      | 3.6 With<br>ApGcHoMcNy<br>ShSvTcVaWf<br>Wz | 13<br>Scheduled<br>as RDV59 | 5.0            |
| BL128 | Loinard, L.<br>Mioduszewski, A.<br>Rodriguez, L.<br>Torres, R.M.   | UNAM<br>NRAO-Socorro<br>UNAM<br>UNAM   | Distance to Taurus and Ophiuchus  |      | 4  | 5, 8                        | 8.0            |
| BL137 | Lister, M.<br>Aller, H.<br>Aller, M.F.<br>Arshakian, T.<br>Homan, D.<br>Kadler, M.<br>Kellermann, K.<br>Kovalev, Y.Y.<br>Lobanov, A.<br>Ros, E.<br>Vermeulen, R.<br>Zensus, J. | Purdue<br>Michigan<br>Michigan<br>MPIFR<br>Denison<br>MPIFR<br>NRAO-CV<br>NRAO-GB<br>MPIFR<br>MPIFR<br>ASTRON<br>MPIFR | MOJAVE II   |      | 2,4  | 6                           | 24.0           |
| BL143 | Loinard, L.<br>Mioduszewski, A.<br>Rodriguez, L.F.<br>Torres, R.   | UNAM<br>NRAO-Socorro<br>UNAM<br>UNAM   | Towards a very accurate distance to Perseus                                     |      | 1  | 15                          | 2.50           |
| BM234 | Menten, K.<br>Reid, M.   | MPIFR<br>Cfa   | Parallax and proper motion of Orion X-ray stars                                 |      | 4  | 9                           | 10.0           |
| BM235 | Moellenbrock, G.<br>Beasley, A.<br>Claussen, M.<br>Goss, W.M.  | NRAO-Socorro<br>NRAO-ALMA<br>NRAO-Socorro<br>NRAO-Socorro  | Parallax and proper motions of galactic water masers                            |      | 1  | 2                           | 4.0            |



## VLBA Utilization Report September 2006

| Progm | Observer  | Affiliation   | Program Title  | Stns | Bands<br>cm       | Observing<br>Date | Sched<br>Hours |
|-------|---|---|--|------|-------------------|-------------------|----------------|
| BM244 | Moscadelli, L.<br>Beltran, M.<br>Cesaroni, R.<br>Codella, C.<br>Furuya, R.<br>Goddi, C.   | Cagliari<br>Barcelona<br>Arcetri<br>Firenze<br>Caltech<br>Cagliari  | Gas kinematics around high-mass YSOs<br>explored via maser associations  |      | 1                 | 18,22,28          | 18.0           |
| BM247 | Marscher, A.<br>Aller, M.<br>Chatterjee, S.<br>Jorstad, S.<br>McHardy, I.   | Boston<br>Michigan<br>Boston<br>Boston<br>Southampton   | Relation between the X-ray state and<br>energy flow into jets of radio galaxies                                  |      | 0.7               | 7                 | 24.0           |
| BP128 | Peck, A.<br>Marrone, D.<br>Myers, S.<br>Taylor, G.<br>Zavala, B.  | CfA<br>CfA<br>NRAO-Socorro<br>UNM<br>USNO   | Multi-wavelength analysis of the record<br>outburst in 3C454.3   |      | 1,2,4,6           | 26                | 6.0            |
| BP131 | Piner, B.<br>Edwards, P.  | Whittier College<br>ISAS  | Toward establishing a confirmed sample of<br>ultrarelativistic jets  |      | 0.7               | 11                | 12.0           |
| BR100 | Reid, M.<br>Greenhill, L.<br>Menten, K.<br>Moscadelli, L.<br>Xu, Y.<br>Zheng, X.W.  | CfA<br>CfA<br>MPIfR<br>Cagliari<br>Nanjing<br>Nanjing   | Spiral structures and kinematics of the<br>Milky Way   |      | 2                 | 1,29              | 20.0           |
| BR106 | Reid, M.<br>Menten, K.  | CfA<br>MPIfR  | Enigmatic star VY CMa  |      | 0.7               | 28                | 8.50           |
| BR121 | Reid, M.<br>Brunthaler, A.<br>Menten, K.<br>Xu, Y.<br>Zheng, X.-W.  | CfA<br>MPIfR<br>MPIfR<br>MPIfR<br>Nanjing   | Trigonometric parallax for the Galactic<br>Center  |      | 1                 | 4, 23             | 16.0           |
| BS150 | Savolainen, T.<br>Rastorgueva, E.<br>Takalo, L.<br>Valtaoja, E.<br>Valtonen, M.<br>Wiik, K.   | Tuorla<br>Tuorla<br>Tuorla<br>Tuorla<br>Tuorla<br>Tuorla  | Multi-frequency polarimetric VLBA<br>monitoring of the next predicted outburst<br>in OJ287                       |      | 0.3,0.7,1,<br>2,4 | 21                | 8.0            |
| BS158 | Shen, Z.-Q.<br>Ho, P.<br>Lo, K.Y.<br>Miyazaki, A.<br>Miyoshi, M.<br>Tsuboi, M.<br>Tsutsumi, T.<br>Zhao, J.  | Shanghai<br>CfA<br>NRAO-CV<br>Shanghai<br>NAOJ<br>NRAOJ<br>NAOJ<br>CfA  | Monitoring the temporal variation in the<br>structure of Sgr A* with the VLBA at its<br>highest frequency 86 GHz |      | 0.3, 0.7          | 24                | 7.0            |
| BS162 | Soria-Ruiz, R.<br>Alcolea, J.<br>Bujarrabal, V.<br>Colomer, F.<br>Desmurs, J.-F.  | OAN<br>OAN<br>OAN<br>OAN<br>OAN   | 3mm obs. of HCN masers: 2nd attempt  |      | 0.3, 0.7          | 17,18             | 15.0           |
| BS169 | Stanghellini, C.<br>Dallacasa, D.<br>Hong, X-Y.<br>Tao, A.<br>Venturi, T.   | INAF<br>Bologna<br>Shanghai<br>Shanghai<br>INAF   | Hot-spot separation velocity in three<br>compact symmetric objects   |      | 4                 | 30                | 7.75           |
| BT088 | Taylor, G.<br>Fassnacht, C.<br>Healey, S.<br>Helmboldt, J.<br>Myers, S.<br>Pearson, T.<br>Readhead, T.<br>Romani, R.<br>Sjouwerman, L.<br>Walker, C.<br>Weintraub, L. | UNM<br>Calif., Davis<br>Stanford<br>UNM<br>NRAO-Socorro<br>Caltech<br>Caltech<br>Stanford<br>NRAO-Socorro<br>Caltech<br>Caltech | Investigating supermassive binary black<br>hole candidates   |      | 2,4,6             | 19                | 17.0           |
| BU031 | Ulvestad, J.<br>Neff, S.  | NRAO-Socorro<br>NASA  | Search for young supernovae in Antennae<br>Galaxies  |      | 13 With GB        | 16, 30            | 10.0           |
| BV059 | Vlemming, W.<br>Torrelles, J.<br>vanLangevelde, H.<br>Staff   | Manchester<br>Barcelona<br>JIVE<br>NRAO   | Co-evolution of methanol and water maser<br>filaments in Cepheus A<br>Maintenance                                |      | 2                 | 13                | 5.0<br>202.0   |

Based on Actual Hours Observed

The average downtime was 12.24 hours 4.6%

Actual observing time was 253.8 hours

The VLBA was scheduled 64.9% of the time 483.40 hours of a possible 744 hours

|                           |   |       |                |
|---------------------------|---|-------|----------------|
| Astronomical Observations | = | 35.7% | (266.05 hours) |
| Tests and Calibrations    | = | 15.1% | (112.15 hours) |
| Maintenance               | = | 14.1% | (105.20 hours) |

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Based on Scaled Observing Hours

Number of hours of observing possible = 744 hours

Number of scaled hours of astronomical observations = 431.1 hrs

Downtime = 4.6% (19.9 hours)

Actual observing = 413.2 hours

## VLBA Utilization Report August 2006

file

| Progm | Observer   | Affiliation  | Program Title  | Stns | Bands<br>cm                                | Observing<br>Date           | Sched<br>Hours |
|-------|--|--|--|------|--|-----------------------------|----------------|
| BB200 | Brunthaler, A.<br>Falcke, H.<br>Greenhill, L.<br>Henkel, C.<br>Reid, M.  | JIVE<br>Dwingeloo<br>CfA<br>MPIfR<br>CfA   | Geometric distance to M33  |      | 1  | 2,12,                       | 24.0           |
| BD116 | Dougherty, S.<br>Blomme, R.<br>Runacres, M.C.<br>Rauw, G.<br>VanLoo, S.<br>Pittard, J.   | DRAO<br>Royal Obs Belgium<br>Vrije Univ.<br>Leige<br>Leeds<br>Leeds  | Structure of O-star triple system HD167971                                   |      | 0.7, 1.3,<br>2, 3.6, 6,<br>18 With Y1      | 4                           | 11.0           |
| BE049 | Edmonds, R.<br>Honma, M.<br>Sjouwerman, L.   | UNM<br>NAOJ<br>NRAO-Socorro  | 43 GHz VLBA positions for SiO-13 and SiO-23                                  |      | 0.7  | 12                          | 1.0            |
| BF088 | Fish, V.L.   | NRAO-Socorro   | Multi-frequency OH maser observations of G11.90-0.14                         |      | 2, 6, 18<br>with GB                        | 29                          | 4.5            |
| BG165 | Goddi, C.<br>Imai, H.<br>Moscadelli, L.  | Arcetri<br>Kagoshima<br>Cagliari   | Full polarization of H2O masers towards high-mass SFR W3 (OH)                |      | 1  | 18                          | 12.0           |
| BJ045 | Junor, B.  | LANL   | Deep 3mm observations of Virgo A Core  |      | 0.3, 0.7                                   | 24,25,26                    | 19.2           |
| BJ050 | Jin, C.<br>Garrett, M.<br>Nair, S.<br>Nan, R.<br>Porcas, R.  | NAOC, China<br>JIVE<br>Raman Research Inst.<br>NAOC, China<br>MPIfR  | 3mm obs. of gravitational lens system PKS 1830-211                           |      | 0.3, 0.7                                   | 25                          | 7.25           |
| BJ060 | Johnston, K.<br>Fey, A.<br>Ma, C.<br>Gordon, D.<br>Boboltz, D.<br>Kingham, K.<br>Behrend, D.<br>Gipson, J.<br>MacMillan, D.<br>Petrov, L.<br>Fomalont, E.<br>Walker, C.            | USNO<br>USNO<br>NASA-GSFC<br>Raytheon-GSFC<br>USNO<br>USNO<br>NVI-GSFC<br>NVI-GSFC<br>NVI-GSFC<br>NASA-GSFC<br>NRAO-CV<br>NRAO-Socorro | Geodesy/astrometry observations for 2006                                     |      | 3.6 With<br>ApGcHoKbNy<br>OnTsVwJfWz<br>Zc | 30<br>Scheduled<br>as RDV58 | 25.0           |
| BK127 | Knudsen, K.<br>Walter, F.<br>Momjian, E.<br>Carilli, C.<br>Yun, M.   | MPIA<br>MPIA<br>Arecibo<br>NRAO-Socorro<br>Massachusetts   | Imaging two submm-bright quasars at redshift 2.8                             |      | 18 with<br>AR, GB,<br>Y27                  | 13                          | 7.0            |
| BL128 | Loinard, L.<br>Mioduszewski, A.<br>Rodriguez, L.F.<br>Torres, R.M.   | UNAM<br>NRAO-Socorro<br>UNAM<br>UNAM   | Distance to Taurus and Ophiuchus   |      | 4  | 21,23,27                    | 12.0           |
| BL137 | Lister, M.<br>Aller, H.D.<br>Aller, M.F.<br>Arshakian, T.<br>Roman, D.<br>Kadler, M.<br>Kellermann, K.<br>Kovalev, Y.Y.<br>Lobanov, A.<br>Ros, E.<br>Vermeulen, R.<br>Zensus, J.A. | Purdue<br>Michigan<br>Michigan<br>MPIfR<br>Denison<br>MPIfR<br>NRAO-CV<br>NRAO-GB<br>MPIfR<br>MPIfR<br>ASTRON<br>MPIfR                 | MOJAVE II  |      | 2, 4                                       | 9                           | 24.0           |
| BL143 | Loinard, L.<br>Mioduszewski, A.<br>Rodriguez, L.F.<br>Torres, R.   | UNAM<br>NRAO-Socorro<br>UNAM<br>UNAM   | Towards a very accurate distance to Perseus                                  |      | 1  | 25                          | 2.5            |
| BM235 | Moellenbrock, G.A.<br>Beasley, A.J.<br>Claussen, M.<br>Goss, W.M.  | NRAO-Socorro<br>ALMA<br>NRAO-Socorro<br>NRAO-Socorro   | Parallax and proper motions of Galactic water masers                         |      | 1  | 4                           | 4.0            |
| BM247 | Marscher, A.<br>Aller, M.F.<br>Chatterjee, R.<br>Jorstad, S.<br>McHardy, I.  | Boston<br>Michigan<br>Boston<br>Boston<br>Southampton  | Relation between the X-ray state and energy flow into jets of radio galaxies |      | 0.7  | 10                          | 24.0           |
| B0025 | Orienti, M.<br>Dallacasa, D.   | Bologna<br>Bologna   | Magnetic fields in extremely young radio sources                             |      | 1,2,4,6,13<br>.20                          | 17                          | 8.0            |

VLBA Utilization Report August 2006

| Progm  | Observer   | Affiliation   | Program Title  | Stns | Bands<br>cm       | Observing<br>Date | Sched<br>Hours |
|--------|--|---|--|------|-------------------|-------------------|----------------|
| BP128  | Peck, A.<br>Marrone, D.<br>Myers, S.<br>Taylor, G.<br>Zavala, B.   | CfA<br>Harvard<br>NRAO-Socorro<br>UNM<br>USNO   | Multi-wavelength analysis of record<br>outburst in 3C454.3   |      | 1,2,4,6           | 7                 | 6.0            |
| BT085  | Taylor, G.<br>Blandford, R.<br>Fassnacht, C.<br>Gehrels, N.<br>Michelson, P.<br>Myers, S.<br>Pearson, T.<br>Readhead, T.<br>Romani, R.<br>Sjouerman, L.<br>Ulvestad, J.<br>Walker, C.<br>Weintraub, L. | UNM<br>Stanford<br>Calif., Davis<br>NASA<br>Stanford<br>NRAO-Socorro<br>Caltech<br>Caltech<br>Stanford<br>NRAO-Socorro<br>NRAO-Socorro<br>NRAO-Socorro<br>Caltech | Imaging and polarimetry survey (VIPS)                        |      | 6                 | 1,3,5,7           | 48.5           |
| BT087  | Tafoya, D.<br>Gomez, Y.<br>Patel, N.<br>Reid, M.   | CfA<br>UNAM<br>CfA<br>CfA   | Rotating magnetized disk in young<br>planetary nebula K 3-35 |      | 20                | 25                | 9.2            |
| BU031  | Ulvestad, J.S.<br>Neff, S.   | NRAO-Socorro<br>NASA-GSFC   | Search for young supernovae in Antennae<br>Galaxies          |      | 13 with GB        | 6                 | 5.0            |
| BW086  | Wiik, K.<br>Savolainen, T.   | Tuorla<br>Tuorla  | Multi-frequency polarimetric VLBA<br>follow-up of 3C454.3    |      | .3,.7,1,2,<br>4,6 | 3                 | 12.0           |
| RDV058 | Gipson, J.<br>Staff  | GSFC<br>NRAO  | Geodetic/astrometry observatiaons<br>Maintenance             |      | 4,13              | 30                | 25<br>109.0    |

Based on Actual Hours Observed

The average downtime was 12.24 hours 4.6%

Actual observing time was 253.8 hours

The VLBA was scheduled 64.9% of the time 483.40 hours of a possible 744 hours

Astronomical Observations = 35.7% (266.05 hours)  
 Tests and Calibrations = 15.1% (112.15 hours)  
 Maintenance = 14.1% (105.20 hours)

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 Based on Scaled Observing Hours

Number of hours of observing possible = 744 hours

Number of scaled hours of astronomical observations = 431.1 hrs

Downtime = 4.6% (19.9 hours)

Actual observing = 413.2 hours

file

VLBA Utilization Report July 2006

| Progm | Observer  | Affiliation  | Program Title  | Stns | Bands<br>cm                                | Observing<br>Date                | Sched<br>Hours |
|-------|---|--|--|------|--|----------------------------------|----------------|
| BA082 | Agudo, I.<br>Gomez, J.L.<br>Jorstad, S.<br>Lobanov, A.<br>Marscher, A.<br>Marti, J.<br>Perucho, M.<br>Roca-Sogorb, M.<br>Roy, A.  | MPIfR<br>IAA, Spain<br>Boston<br>MPIfR<br>Boston<br>Valencia, Spain<br>MPIfR<br>IAA, Spain<br>MPIfR                                    | Astrometry of wobbling jets in blazars   |      | 1.3  | 16                               | 16.0           |
| BB226 | Boboltz, D.<br>Diamond, P.<br>Driebe, T.<br>Johnston, K.<br>Ohnaka, K.<br>Wittkowski, M.  | USNO<br>Jodrell Bank<br>MPIfR<br>USNO<br>MPIfR<br>ESO  | Polychromatic interferometry of evolved star RR Aql                                |      | 0.7  | 1                                | 5.0            |
| BB235 | Willett, K.   | Colorado   | Q band pseudo-continuum observations   |      | 4  | 17                               | 2.0            |
| BC157 | Claussen, M.<br>Bond, H.<br>Evans, A.<br>Gehrz, R.<br>Healy, K.<br>Rushton, M.<br>Starrfield, S.<br>Woodward, C.  | NRAO-Socorro<br>STSci<br>Keele<br>Minnesota<br>ASU<br>Keele<br>ASU<br>Minnesota  | SiO masers in V838 Monocerotis   |      | 0.7  | 26                               | 8.0            |
| BD114 | Dougherty, S.<br>Pittard, J.<br>O'Connor, E.<br>Beasley, A.J.<br>Claussen, M.J.   | DRAO<br>Leeds<br>UPEI<br>NRAO-Santiago<br>NRAO-Socorro   | Structural monitoring of colliding-wind binary WR140                               |      | 0.7, 1.3,<br>2, 3.6, 6,<br>18              | 28 With Y1                       | 11.9           |
| BD117 | Dhawan, V.<br>Mioduszewski, A.<br>Rupen, M.   | NRAO-Socorro<br>NRAO-Socorro<br>NRAO-Socorro   | Sitting, spitting, and spinning?   |      | 2, 3.6                                     | 3,7,11,15,<br>18,21,24,2<br>7,30 | 49.5           |
| BE048 | Bennett, W.   | NRAO-Socorro   | X band continuum of gravitational lens candidate                                   |      | 20   | 11                               | 4.0            |
| BG167 | Gabuzda, D.<br>Bezrukovs, V.<br>O'Sullivan, S.  | Cork<br>Cork<br>Cork   | Investigating the 3D B-field structures of AGN using Faraday rotation measurements |      | 0.7,1,2,4,<br>6                            | 2                                | 24.0           |
| BH135 | Harris, D.E.<br>Cheung, C.C.<br>Junor, W.   | CfA<br>MIT<br>LANL   | Flare decay of Knot HST-1 in M87 Jet   |      | 20   | 1,3,12                           | 20.9           |
| BJ060 | Johnston, K.<br>Fey, A.<br>Ma, C.<br>Gordon, D.<br>Boboltz, D.<br>Kingham, K.<br>Behrend, D.<br>Gipson, J.<br>MacMillan, D.<br>Petrov, L.<br>Fomalont, E.<br>Walker, C. | USNO<br>USNO<br>NASA-GSFC<br>Raytheon-GSFC<br>USNO<br>USNO<br>NVI-GSFC<br>NVI-GSFC<br>NVI-GSFC<br>NASA-GSFC<br>NRAO-CV<br>NRAO-Socorro | Geodesy/astrometry observations for 2006   |      | 3.6 With<br>ApGcHoMcNy<br>ShSvTcVaWf<br>Wz | 11 Scheduled<br>as RDV57         | 25.0           |
| BL122 | Lanyi, G.<br>Boboltz, D.<br>Charlot, P.<br>Fey, A.<br>Fomalont, E.<br>Gordon, D.<br>Ma, C.<br>Romney, J.<br>Sovers, O.<br>Taylor, G.<br>Ulvestad, J.                    | JPL<br>USNO<br>Bordeaux<br>USNO<br>NRAO-CV<br>GSFC<br>GSFC<br>NRAO-Socorro<br>Remote Sensing<br>UNM<br>NRAO-Socorro                    | High precision K/Q-band astrometry   |      | 1  | 9                                | 24.0           |

## VLBA Utilization Report July 2006

| Progrm | Observer   | Affiliation   | Program Title  | Stns | Bands<br>cm     | Observing<br>Date | Sched<br>Hours |
|--------|--|---|--|------|-----------------|-------------------|----------------|
| BL137  | Lister, M.<br>Aller, H.D.<br>Aller, M.F.<br>Arshakian, T.<br>Homan, D.<br>Kadler, M.<br>Kellermann, K.<br>Kovalev, Y.<br>Lobanov, A.<br>Ros, E.<br>Vermeulen, R.<br>Zensus, A.                         | Purdue<br>Michigan<br>Michigan<br>MPIFR<br>Denison<br>MPIFR<br>NRAO-CV<br>NRAO-GB<br>MPIFR<br>MPIFR<br>ASTRON<br>MPIFR  | MOJAVE II  |      | 2,4             | 7                 | 24.0           |
| BL139  | Lobanov, A.P.<br>Alef, W.<br>Arshakian, T.<br>Chavushyan, V.<br>Mercado, A.<br>Shapovalova, A.   | MPIFR<br>MPIFR<br>MPIFR<br>INAOE<br>INAOE<br>SAO, Russia  | Parsec-scale radio emission, accretion<br>disk and broad line region in 3C 390.3         |      | 1,2,.07         | 14                | 8.0            |
| BL142  | Loinard, L.<br>Mioduszewski, A.<br>Rodriguez, L.<br>Torres, R.   | UNAM<br>NRAO-Socorro<br>UNAM<br>UNAM  | Very accurate dynamical mass of a pre-main<br>sequence spectroscopic binary              |      | 2               | 14                | 5.0            |
| BM227  | Moscadelli, L.<br>Cesaroni, R.<br>Rioja, M.J.  | Cagliari<br>Arcetri<br>OAN, Spain   | Ejection and deceleration of the H2O<br>masers in high mass protostar IRAS<br>20126+4104 |      | 1               | 9                 | 11.0           |
| BM248  | Marscher, A.<br>Aller, M.F.<br>D'Arcangelo, F.<br>Hagen-Thorn, V.<br>Jorstad, S.<br>Larionov, V.<br>McHardy, I.  | Boston<br>Michigan<br>Boston<br>St. Petersburg<br>Boston<br>St. Petersburg<br>Southampton   | Probing compact jets through multi-wave<br>band variability and polarization             |      | 0.7             | 18                | 4.5            |
| BO025  | Orienti, M.<br>Dallacasa, D.   | Bologna<br>Bologna  | Magnetic fields in extremely young radio<br>sources                                      |      | 2,4,6,13,2<br>0 | 21,22,26,2<br>8   | 36.0           |
| BR100  | Reid, M.<br>Greenhill, L.<br>Menten, K.<br>Moscadelli, L.<br>Xu, Y.<br>Zheng, X.W.   | Cfa<br>Cfa<br>MPIFR<br>Cagliari<br>Nanjing<br>Nanjing   | Spiral structure and kinematics of the<br>Milky Way                                      |      | 2               | 23                | 10.0           |
| BS160  | Shen, Z.<br>Chen, X.<br>Jiang, D.  | SHAO<br>SHAO<br>SHAO  | Simultaneous VLBA Obs. of Three 7mm SiO<br>masers toward VX Sgr at five epochs           |      | 0.7             | 16                | 8.0            |
| BT085  | Taylor, G.<br>Blandford, R.<br>Fassnacht, C.<br>Gehrels, N.<br>Michelson, P.<br>Myers, S.<br>Pearson, T.<br>Readhead, T.<br>Romani, R.<br>Sjouerman, L.<br>Ulvestad, J.<br>Walker, C.<br>Weintraub, L. | UNM<br>Stanford<br>Calif., Davis<br>NASA<br>Stanford<br>NRAO-Socorro<br>Caltech<br>Caltech<br>Stanford<br>NRAO-Socorro<br>NRAO-Socorro<br>NRAO-Socorro<br>Caltech | Imaging and polarimetry survey (VIPS)  |      | 6               | 17, 31            | 16.75          |
| BU031  | Ulvestad, J.S.<br>Neff, S.   | NRAO-Socorro<br>NASA-GSFC   | Search for young supernovae in Antennae<br>Galaxies                                      |      | 13 With GB      | 15, 30            | 10.0           |
| BV059  | Vlemmings, W.<br>Torrelles, J.<br>vanLanevelde, H.   | Jodrell Bank<br>CSIC-IEEC<br>JIVE   | Co-evolution of methanol and wter maser<br>filaments in Cepheus A starforming region     |      | 1               | 7                 | 5.0            |
| BW082  | Walker, R.C.<br>Hardee, P.<br>Junor, B.<br>Ly, C.  | NRAO-Socorro<br>Alabama<br>LANL<br>Calif., Los Angeles  | Pilot project for an M87 movie at 43 GHz   |      | 0.7             | 14                | 10.0           |
| RDV057 | Gipson, J.<br>Staff  | NRAO  | Geodesy Observations<br>Maintenance  |      | 4, 13           | 11                | 24.0<br>213.0  |

Based on Actual Hours Observed

The average downtime was 18.07 hours 5.3%

Actual observing time was 328.47 hours

The VLBA was scheduled 70.0% of the time 519.05 hours of a possible 744 hours

|                           |   |       |                |
|---------------------------|---|-------|----------------|
| Astronomical Observations | = | 47.0% | (347.55 hours) |
| Tests and Calibrations    | = | 10.5% | ( 78.50 hours) |
| Maintenance               | = | 12.5% | ( 93.00 hours) |

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Based on Scaled Observing Hours

Number of hours of observing possible = 744 hours

Number of scaled hours of astronomical observations = 431.1 hrs

Downtime = 5.3% (22.41 hours)

Actual observing = 408.7 hours

## VLBA Utilization Report June 2006

| Progm | Observer  | Affiliation  | Program Title   | Stns | Bands<br>cm     | Observing<br>Date  | Sched<br>Hours |
|-------|---|--|---|------|-----------------|--------------------|----------------|
| BA080 | Asada, K.<br>Inoue, M.  | NAOJ<br>NAOJ   | Trimonthly monitoring obs. of helical magnetic field i 3C 273 jet                         |      | 2,4,6           | 22                 | 8.0            |
| BB225 | Bartkiewicz, A.<br>Brunthaler, A.<br>Szymczak, M.<br>vanLangevelde, H.  | Torun<br>MPIR, Bonn<br>Torun<br>JIVE   | Nature of methanol maser ring around a young massive star                                 |      | 2               | 10                 | 10.0           |
| BC160 | Charlot, P.<br>Djannati-Atai, A.<br>Gabuzda, D.<br>Lichti, G.<br>Sol, H.  | Obs. de Bordeaux<br>College de France<br>Cork<br>MPIFE<br>Meudon   | Coordinated VLBA polarization, INTEGRAL and TeV obs. of gamma ray emitting blazar Mkn 421 |      | 1,3, 2          | 25                 | 14.0           |
| BD117 | Dhawan, V.<br>Mioduszewski, A.<br>Rupen, M.   | NRAO-Socorro<br>NRAO-Socorro<br>NRAO-Socorro   | Sitting, spitting, and spinning?<br>LSI=61-303 revisited                                  |      | 2,3,6           | 30                 | 5.50           |
| BF075 | Filho, M.<br>Barthel, P.<br>Nagar, N.   | CNR<br>Kapteyn<br>Kapteyn  | Jets in composite LINER/HII nuclei  |      | 2, 6, 13,<br>18 | 23,26              | 16.75          |
| BF090 | Fomalont, E.<br>Fey, A.<br>Gordon, D.<br>Lanyi, G.<br>Ma, C.  | NRAO-CV<br>USNO<br>GSFC<br>JPL<br>GSFC   | ICRF and Phase referencing  |      | 4,13            | 29                 | 6.75           |
| BG166 | Golden, A.<br>Bourke, S.<br>Brisken, W.<br>Chatterjee, S.   | NUI, Galway<br>NUI, Galway<br>NRAO-Socorro<br>CfA  | Measuring distance to CTB 80 Pular B1951+32   |      | 6,20            | 15                 | 3.0            |
| BH135 | Harris, D.E.<br>Cheung, C.C.<br>Junor, W.   | SAO<br>MIT<br>LANL   | Flare decay of Knot 'HST-1' in the M87 Jet  |      | 20              | 30                 | 3.0            |
| BH136 | Hachisuka, K.<br>Brunthaler, A.<br>Hagiwara, Y.<br>Menten, K.<br>Mochizuki, N.<br>Reid, M.  | MPIFR<br>JIVE<br>NAOJ<br>MPIFR<br>ISAS<br>CfA  | Astrometry of H2O maser sources in outer part of the Galaxy                               |      | 1               | 3,24               | 12.0           |
| BH142 | Helfand, D.<br>Brisken, W.<br>Camilo, F.<br>Chatterjee, S.<br>Halpern, J.<br>Ransom, S.<br>Zimmerman, N.  | Columbia<br>NRAO-Socorro<br>Columbia<br>CfA<br>Columbia<br>NRAO<br>Columbia  | First magnetar proper motion from the transient AXP XTE J1810-197                         |      | 4,6             | 2                  | 4.0            |
| BK131 | Kanekar, N.<br>Lane, W.   | NRAO-Socorro<br>NRL  | Compact structure of QSOs behind damped Lyman-alpha systems                               |      | 90              | 8,9,18             | 32.0           |
| BL128 | Loinard, L.<br>Mioduszewski, A.<br>Rodriguez, L.F.<br>Torres, R.  | UNAM<br>NRAO-Socorro<br>UNAM<br>UNAM   | Distance to Taurus and Ophiuchus from multi-epoch VLBA obs.                               |      | 4               | 1,3,4,10,1<br>2,25 | 24.0           |
| BL137 | Aller, H.D.<br>Lister, M.<br>Aller, M.F.<br>Aller, H.D.<br>Arshakian, T.<br>Homan, D.<br>Kadler, M.<br>Kellermann, K.<br>Kovalev, Y.Y.<br>Lobanov, A.<br>Ros, E.<br>Vermeulen, R.<br>Zensus, J.A. | Michigan<br>Purdue<br>Michigan<br>Michigan<br>MPIFR<br>Denison<br>MPIFR<br>NRAO-CV<br>NRAO-GB<br>MPIFR<br>MPIFR<br>ASTRON<br>MPIFR | MOJAVE II Program   |      | 2,4             | 15                 | 24.0           |
| BL142 | Loinard, L.<br>Mioduszewski, A.<br>Rodriguez, L.<br>Torres, R.  | UNAM<br>NRAO-Socorro<br>UNAM<br>UNAM   | Very accurate dynamical mass of a pre-main sequence                                       |      | 2               | 21                 | 5.0            |
| BM235 | Moellenbrock, G.<br>Beasley, A.<br>Claussen, M.<br>Goss, M.   | NRAO-Socorro<br>NRAO-ALMA<br>NRAO-Socorro<br>NRAO-Socorro  | Parallax and proper motions of galactic water masers                                      |      | 1               | 22                 | 4.0            |



## VLBA Utilization Report June 2006

| Progm | Observer  | Affiliation   | Program Title   | Stns | Bands<br>cm       | Observing<br>Date | Sched<br>Hours |
|-------|---|---|---|------|-------------------|-------------------|----------------|
| BM244 | Moscadelli, L.<br>Beltran, M.T.<br>Cesaroni, R.<br>Codella, C.<br>Furuya, R.<br>Godri, C.   | Cagliari<br>Barcelona<br>Arcetri<br>IRA<br>Caltech<br>Cagliari  | Gas kinematics around high mass YSOs<br>explored via maser associations                 |      | 1                 | 28,29,30          | 10.25          |
| BM247 | Marscher, A.<br>Aller, M.F.<br>Chatterjee, R.<br>Jorstad, S.<br>McHardy, I.   | Boston<br>Michigan<br>Boston<br>Boston<br>Southampton   | Relation between the X-ray state and<br>energy flow into jets of radio galaxies         |      | 0.7               | 17                | 10.0           |
| BM248 | Marscher, A.<br>Aller, M.F.<br>D'Arcangelo, F.<br>Hagen-Thorn, V.<br>Jorstad, S.<br>Larionov, V.<br>McHardy, I.   | Boston<br>Michigan<br>Boston<br>St. Petersburg<br>Boston<br>St. Petersburg<br>Southampton   | Probing compact jets thru multi-waveband<br>variability and polarization                |      | 0.7               | 21                | 14.5           |
| BP125 | Petrov, L.<br>Fomalont, E.<br>Gordon, D.<br>Honma, M.<br>Kobayashi, H.<br>Kovalev, Y.   | NVI<br>NRAO-CV<br>NASA<br>NAOJ<br>NAOJ<br>NRAO-GB   | GaPS: Galactic Plane Survey   |      | 1                 | 4,11              | 48.0           |
| BP128 | Peck, A.<br>Marrone, D.<br>Myers, S.<br>Taylor, G.<br>Zavala, B.  | Cfa<br>Harvard<br>NRAO-Socorro<br>UNM<br>USNO   | Multi-wavelength analysis of record<br>outburst in 3C454.3                              |      | 1,2,4,6           | 23                | 6.0            |
| BR122 | Ros, E.<br>Aller, H.<br>Aller, M.<br>Kadkler, M.<br>Kellermann, K.<br>Kovalve, Y.<br>Lister, M.<br>Lobanov, A.<br>Miller, R.<br>Norris, J.<br>Samburina, R.<br>Savolainen, T.<br>Wiik, K.<br>Zensus, A. | MPIfR<br>Michigan<br>Michigan<br>NASA<br>NRAO-CV<br>NRAO-GB<br>Purdue<br>MPIfR<br>Georgia State<br>NASA<br>NASA<br>Tuorla<br>Tuorla<br>MPIfR                      | Catching flare in CTA 102   |      | .7,1,2,4,6<br>,13 | 8                 | 6.0            |
| BS158 | Shen, Z.-Q.<br>Ho, P.<br>Lo, K.Y.<br>Miyazaki, A.<br>Miyoshi, M.<br>Tsuboi, M.<br>Tsutsumi, T.<br>Zhao, J.  | Shanghai<br>Cfa<br>NRAO-CV<br>Shanghai<br>NAOJ<br>NAOJ<br>NAOJ<br>Cfa   | Monitoring the temporal variation in<br>structure of Sgr A* at its highest<br>frequency |      | 0.3, 0.7          | 13                | 7.0            |
| BS166 | Szymczak, M.<br>Bartkiewicz, A.<br>Diamond, P.<br>Gerard, E.  | Torun<br>Torun<br>Jodrell Bank<br>Obs. de Paris   | Polarized OH outburst in a proto-planetary<br>nebulae                                   |      | 20                | 11                | 12.0           |
| BT085 | Taylor, G.<br>Blandford, R.<br>Fassnacht, C.<br>Gehrels, N.<br>Michelson, P.<br>Myers, S.<br>Pearson, T.<br>Readhead, T.<br>Romani, R.<br>Sjouwerman, L.<br>Ulvestad, J.<br>Walker, C.<br>Weintraub, L. | UNM<br>Stanford<br>Calif., Davis<br>NASA<br>Stanford<br>NRAO-Socorro<br>Caltech<br>Caltech<br>Stanford<br>NRAO-Socorro<br>NRAO-Socorro<br>NRAO-Socorro<br>Caltech | VLBA Imaging and polarimetry survey   |      | 6                 | 1,19              | 15.75          |
| BU031 | Ulvestad, J.S.<br>Neff, S.  | NRAO-Socorro<br>NASA-GSFC   | Search for young supernovae in Antennae<br>Galaxies                                     |      | 13 With GB        | 24                | 5.0            |
| BV059 | Vlemmings, W.<br>Torrelles, J.<br>vanLangevelde, H.   | Jodrell Bank<br>Barcelona<br>JIVE   | Co-evolution of Methanol and water maser<br>filaments in Cepheus A starforming region   |      | 2                 | 2                 | 5.0            |

VLBA Utilization Report June 2006

| Progm | Observer  | Affiliation   | Program Title  | Stns | Bands<br>cm                            | Observing<br>Date | Sched<br>Hours |
|-------|---|---|--|------|--|-------------------|----------------|
| GB058 | Bartel, N.<br>Rupen, M.<br>Bietenholz, M.F.<br>Beasley, A.J.<br>Graham, D.<br>Altunin, V.<br>Venturi, T.<br>Umana, G.<br>Cannon, W.<br>Conway, J.E. | York U.<br>NRAO-Socorro<br>York U.<br>NRAO-Santiago<br>MPIfR<br>JPL<br>Bologna<br>Noto<br>York U.<br>Onsala | Structural and spectral evolution of SN 1993J          |      | 6 With EB,<br>WB, JB,<br>GB, Y27       | 16                | 12.0           |
| GD021 | Diamond, P.J.<br>Lonsdale, C.J.<br>Thrall, H.<br>Lonsdale, C.J.<br>Smith, H.E.<br>Conway, J.E.<br>Parra, R.   | Jodrell Bank<br>Haystack<br>Jodrell Bank<br>Caltech-IPAC<br>CFA<br>Onsala<br>Onsala                         | Monitoring evolution of compact emission of Arp220     |      | 18 With<br>GB,<br>correlate<br>at JIVE | 7                 | 14.0           |
| GM062 | Orienti, M.<br>Morganti, R.<br>Dallacasa, D.<br>Oosterloo, T.   | Bologna<br>ASTRON<br>Bologna<br>ASTRON  | Imaging the very broad HI absorption in radio galaxies |      | 18 With<br>GB,<br>correlate<br>at JIVE | 5                 | 12.0           |
| MAINT |   |   | Maintenance  |      |  |                   | 92.0           |

Based on Actual Hours Observed

The average downtime was 19.6 hours 5.5%

Actual observing time was 337.9 hours

The VLBA was scheduled 72.6% of the time 525.5 hours of a possible 720 hours

Astronomical Observations = 49.6% (357.5 hours)  
 Tests and Calibrations = 14.0% (100.0 hours)  
 Maintenance = 9.0% (68.0 hours)

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 Based on Scaled Observing Hours

Number of hours of observing possible = 720 hours

Number of scaled hours of astronomical observations = 505.3 hrs

Downtime = 5.5% (27.8 hours)

Actual observing = 477.5 hours

## VLBA Utilization Report May 2006

| Progm | Observer   | Affiliation   | Program Title  | Stns | Bands<br>cm                    | Observing<br>Date | Sched<br>Hours |
|-------|--|---|--|------|--------------------------------|-------------------|----------------|
| BA078 | Agudo, I.<br>Bach, U.<br>Gomez, J.L.<br>Krichbaum, T.<br>Roy, A.<br>Witzel, A.<br>Zensus, J.A.   | MPIfR<br>Torino<br>IAA, Granada<br>MPIfR<br>MPIfR<br>MPIfR<br>MPIfR   | Monitoring NRAO 150 with multi-frequency polarimetry                     |      | 0.7, 2                         | 19                | 12.0           |
| BB182 | Bach, U.<br>Krichbaum, T.<br>Middelberg, E.<br>Witzel, A.<br>Zensus, J.A.  | MPIfR<br>MPIfR<br>MPIfR<br>MPIfR<br>MPIfR   | Finding Nucleus in Cygnus A  |      | 1,2                            | 12                | 11.75          |
| BB219 | Bietenholz, M.<br>Bartel, N.<br>Rupen, M.  | York<br>York<br>NRAO-Socorro  | Unusual Type Ib/c Supernova and GRB Candidate SN 2001 em                 |      | 3.6                            | 27                | 12.0           |
| BB222 | Basri, G.<br>Bolatto, A.<br>Ford, E.<br>Goldston, J.<br>Graham, J.<br>Kalas, P.<br>Marcy, G.<br>Matthews, B.<br>Sandstrom, K.<br>Wright, J.                                    | Calif.-Berkeley<br>Calif.-Berkeley<br>Calif.-Berkeley<br>Calif.-Berkeley<br>Calif.-Berkeley<br>Calif.-Berkeley<br>HIA<br>Calif.-Berkeley<br>Calif.-Berkeley | Astrometric detection of planets around nearby stars                     |      | 4                              | 10,20,21          | 18.0           |
| BC142 | Claussen, M.<br>Morris, M.<br>Sahai, R.<br>Sanchez-Contreras,  | NRAO-Socorro<br>UCLA<br>JPL<br>OVRO   | Water masers in newly discovered protoplanetary nebulae                  |      | 1                              | 31                | 6.25           |
| BC161 | Cotton, W.D.<br>Danchi, W.<br>Lacasse, M.<br>Ragland, S.<br>Schloerb, F.P.<br>Townes, C.<br>Traub, W.  | NRAO-CV<br>NASA<br>Cfa<br>Cfa<br>UMASS<br>Calif.-Berkeley<br>Cfa  | Obs. of Miras with photospheric asymmetries II                           |      | 0.7                            | 28                | 10.0           |
| BF089 | Forbrich, J.<br>Massi, M.<br>Ros, E.<br>Menten, K.   | MPIfR<br>MPIfR<br>MPIfR<br>MPIfR  | Non-thermal emission from protostars                                     |      | 3.6 With<br>AR, EB,<br>GB, Y27 | 24                | 4.50           |
| BH135 | Harris, D.E.<br>Cheung, C.C.<br>Junor, W.  | SAO<br>MIT<br>LANL  | Flare Decay of Knot 'HST-1' in M87 Jet                                   |      | 20                             | 11                | 7.80           |
| BL128 | Loinard, L.<br>Mioduszewski, A.<br>Rodriguez, L.F.<br>Torres, R.M.   | UNAM<br>NRAO-Socorro<br>UNAM<br>UNAM  | Distance fo Taurus and Ophiuchus   |      | 4                              | 22                | 4.0            |
| BL137 | Lister, M.<br>Aller, J.<br>Aller, M.F.<br>Arshakian, T.<br>Homan, D.<br>Kadler, M.<br>Kellermann, K.<br>Kovalev, Y.Y.<br>Lobanov, A.<br>Ros, E.<br>Vermeulen, R.<br>Zensus, J. | Purdue<br>Michigan<br>Michigan<br>MPIfR<br>Denison<br>MPIfR<br>NRAO-CV<br>NRAO-GB<br>MPIfR<br>MPIfR<br>ASTRON<br>MPIfR                                      | MOJAVE II  |      | 2,4                            | 24                | 24.0           |
| BM229 | Marscher, A.<br>Aller, M.F.<br>D'Arcangelo, F.<br>Jorstad, S.<br>McHardy, I.   | Boston<br>Michigan<br>Boston<br>Boston<br>Southampton   | Probing compact jets thru multi-waveband variability and polarization    |      | 0.7                            | 4                 | 16.0           |
| BM230 | Marscher, A.<br>Aller, M.F.<br>Jorstad, S.<br>McHardy, I.<br>Wannawichian, S.  | Boston<br>Michigan<br>Boston<br>Southampton<br>Boston   | Relation between X-ray state and energy flow into jets of radio galaxies |      | 0.7                            | 16                | 10.0           |
| BM235 | Moellenbrock, G.<br>Beasley, A.J.<br>Claussen, M.<br>Goss, M.  | NRAO-Socorro<br>NRAO-ALMA<br>NRAO-Socorro<br>NRAO-Socorro   | Parallax and proper motions of galactic water masers                     |      | 1                              | 8, 31             | 8.0            |

## VLBA Utilization Report May 2006

| Prog# | Observer   | Affiliation   | Program Title  | Stns | Bands<br>cm                       | Observing<br>Date | Sched<br>Hours |
|-------|--|---|--|------|-----------------------------------|-------------------|----------------|
| BO027 | O'Brien, T.J.<br>Beswick, R.<br>Bode, M.<br>Eyres, S.<br>Garrington, S.<br>Muxlow, T.<br>Porcas, R.  | Jodrell Bank<br>Jodrell Bank<br>JMU<br>Lancashire<br>Jodrell Bank<br>Jodrell Bank<br>MPIfR  | Monitoring the expanding radio remnant of<br>RS Oph  |      | 20                                | 3,9,16,23,<br>29  | 53.75          |
| BP128 | Peck, A.<br>Marrone, D.<br>Myers, S.<br>Taylor, G.<br>Zavala, B.   | CfA<br>CfA<br>NRAO-Socorro<br>UNM<br>USNO   | Multi-wavelength analysis of record<br>outburst in 3C454.3                                 |      | 4                                 | 22                | 6.0            |
| BP130 | Perez Torres, M.A.<br>DeBreuck, C.<br>deVries, W.<br>Miley, G.<br>Overzier, R.<br>vanBreugel, W.   | IAA, Spain<br>ESO<br>IGPP<br>Leiden<br>Leiden<br>IGPP   | Imaging of high redshift radio galaxy<br>TN1338-1942                                       |      | 20                                | 26                | 8.0            |
| BR100 | Reid, M.<br>Greenhill, L.<br>Menten, K.<br>Moscadelli, L.<br>XU, Y.<br>Zheng, X.W.   | CfA<br>CfA<br>MPIfR<br>Cagliari<br>Nanjing<br>Nanjing   | Spiral structure and kinematics of Milky<br>Way  |      | 2                                 | 26                | 10.0           |
| BS150 | Savolainen, T.<br>Rastorgueva, E.<br>Valtaoja, E.<br>Valtonen, M.<br>Wiik, K.  | Tuorla<br>Tuorla<br>Tuorla<br>Tuorla<br>Tuorla  | Multi-frequency polarimetric VLBA<br>monitoring of the next predicted outburst<br>in 0J287 |      | 0.3,0.7,1,<br>2,4                 | 12                | 8.0            |
| BS158 | Shen, Z.-Q.<br>Ho, P.<br>Lo, K.Y.<br>Miyazaki, A.<br>Miyoshi, M.<br>Tsuboi, M.<br>Tsutsumi, T.<br>Zhao, J.   | Shanghai<br>CfA<br>NRAO-CV<br>Shanghai<br>NAO<br>NRAO<br>NAO<br>CfA   | Monitoring temporal variation in structure<br>of Sgr A* with VLBA                          |      | 0.3, 0.7                          | 13,30             | 14.0           |
| BT085 | Taylor, G.<br>Blandford, R.<br>Fassnacht, C.<br>Michelson, P.<br>Myers, S.<br>Pearson, T.<br>Readhead, T.<br>Romani, R.<br>Sjouwerman, L.<br>Ulvestad, J.<br>Walker, C.<br>Weintraub, L. | UNM<br>Stanford<br>Calif.-Davis<br>Stanford<br>NRAO-Socorro<br>Caltech<br>Caltech<br>Stanford<br>NRAO-Socorro<br>NRAO-Socorro<br>NRAO-CV<br>Caltech | VLBA Imaging and polarimetric survey<br>(VIPS)   |      | 6                                 | 1,14,27           | 39.25          |
| BW082 | Walker, R.<br>Hardee, P.<br>Junor, B.<br>Ly, C.  | NRAO-Socorro<br>Alabama<br>LANL<br>UCLA   | Pilot project for M87 movie at 43 GHz  |      | 0.7                               | 13                | 10.0           |
| BY021 | Yi, J.<br>Booth, R.<br>Conway, J.  | KASI<br>Onsala<br>Onsala  | Joint VLA/VLBA observations of SiO masers<br>in two Miras                                  |      | 0.7                               | 15                | 8.50           |
| GA022 | Agudo, I.<br>Krichbaum, T.P.<br>Gomez, J-L.<br>Bach, U.<br>Bremer, M.<br>Witzel, A.<br>Zensus, J.A.  | IAA<br>MPIfR<br>IEEC-Barcelona<br>Torino<br>Bristol<br>MPIfR<br>MPIfR   | Polarimetric monitoring of NRAO 150  |      | 0.3 for<br>correlation<br>at Bonn | 7                 | 15.0           |
| GD022 | Dodson, R.<br>Agudo, I.<br>Krichbaum, T.P.<br>Thum, C.<br>Wiesemeyer, H.<br>Rioja, M.J.<br>Bremer, M.  | ISAS<br>IAA<br>MPIfR<br>IRAM<br>MPIfR<br>OAN<br>Bristol   | Polarisation observations with GMVA  |      | 0.3 for<br>correlation<br>at Bonn | 4                 | 19.5           |

VLBA Utilization Report May 2006

| Progm | Observer  | Affiliation  | Program Title   | Stns | Bands cm                    | Observing Date | Sched Hours |
|-------|---|--|---|------|-----------------------------|----------------|-------------|
| GK033 | Krichbaum, T.P.<br>Graham, D.<br>Alef, W.<br>Witzel, A.<br>Zensus, J.A.<br>Bremer, M.<br>Grewing, M.  | MPIfR<br>MPIfR<br>MPIfR<br>MPIfR<br>Bristol<br>IRAM  | Structural monitoring of M87                              |      | 0.3 for correlation at Bonn | 6              | 13.0        |
| GK035 | Krichbaum, T.P.<br>Agudo, I.<br>Savolainen, T.<br>Wiik, K.<br>Alef, W.<br>Graham, D.<br>Witzel, A.<br>Zensus, J.A.<br>Bremer, M.<br>Wiesemeyer, H.<br>Grewing, M.<br>Ungerechts, H. | MPIfR<br>IAA<br>Tuorla<br>Tuorla<br>MPIfR<br>MPIfR<br>MPIfR<br>MPIfR<br>Bristol<br>MPIfR<br>IRAM<br>IRAM | Imaging 3C 454.3 after a major outburst                   |      | 0.3 for correlation at Bonn | 6              | 13.5        |
| GR026 | Rastorgueva, E.A.<br>Wiik, K.<br>Savolainen, T.<br>Takalo, L.<br>Krichbaum, T.P.  | Tuorla<br>Tuorla<br>Tuorla<br>Tuorla<br>MPIfR  | Monitoring the next predicted outburst in OJ287 at 86 GHz |      | 0.3 for correlation at Bonn | 5              | 12.5        |
|       | Staff   | NRAO   | Maintenance   |      |                             |                | 222.0       |

Based on Actual Hours Observed

The average downtime was 15.7 hours 4.2%

Actual observing time was 359.6 hours

The VLBA was scheduled 77.6% of the time 578.3 hours of a possible 744 hours

Astronomical Observations = 50.4% (375.3 hours)  
 Tests and Calibrations = 17.2% (128.0 hours)  
 Maintenance = 10.0% ( 75.0 hours)

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 Based on Scaled Observing Hours

Number of hours of observing possible = 744 hours

Number of scaled hours of astronomical observations = 579.1 hrs

Downtime = 4.2% (24.3 hours)

Actual observing = 555.8 hours

## VLBA Utilization Report April 2006

| Progm | Observer   | Affiliation  | Program Title   | Stns | Bands<br>cm                | Observing<br>Date | Sched<br>Hours |
|-------|--|--|---|------|----------------------------|-------------------|----------------|
| BB200 | Brunthaler, A.<br>Falcke, H.<br>Greenhill, L.<br>Henkel, C.<br>Reid, M.  | JIVE<br>ASTRON<br>CfA<br>MPIfR<br>CfA  | Geometric distance to M33   |      | 1                          | 13,20             | 24.0           |
| BB220 | Boboltz, D.<br>Driebe, T.<br>Ohnaka, K.<br>Wittkowski, M.  | USNO<br>MPIfR<br>MPIfR<br>ESO  | Coordinated VLBA/VLTI Obs. of GX Mon  |      | 0.7                        | 8                 | 5.0            |
| BB222 | Bower, G.<br>Basri, G.<br>Bolatto, A.<br>Ford, E.<br>Goldston, J.<br>Graham, J.<br>Kalas, P.<br>Marcy, G.<br>Matthews, B.<br>Sandstrom, K.<br>Wright, J.                         | Calif.-Berkeley<br>Calif.-Berkeley<br>Calif.-Berkeley<br>Calif.-Berkeley<br>Calif.-Berkeley<br>Calif.-Berkeley<br>Calif.-Berkeley<br>HIA<br>Calif.-Berkeley<br>Calif.-Berkeley | Astrometric detection of planets around nearby stars                            |      | 4                          | 1                 | 4.0            |
| BB223 | Bartel, N.<br>Bietenholz, M.F.   | York U.<br>York U.   | Expansion and deceleration of SNR 41.9+58 in M82                                |      | 13 With<br>EB, GB          | 23                | 11.8           |
| BC152 | Claussen, M.<br>Marvel, K.<br>Simpson, C.<br>Wilking, B.<br>Wootten, H.  | NRAO-Socorro<br>AAS<br>Wellesley<br>UMSL<br>NRAO-Socorro   | Parallax and proper motions of water masers in Ophiuchi molecular cloud complex |      | 1                          | 13                | 5              |
| BC161 | Cotton, W.<br>Danchi, W.<br>Lacasse, M.<br>Ragland, S.<br>Schloerb, F.<br>Townes, C.<br>Traub, W.  | NRAO-CV<br>NASA<br>CfA<br>CfA<br>UMASS<br>Calif.-Berkeley<br>CfA   | Obs. of Miras with Photospheric asymmetries II                                  |      | 0.7                        | 9                 | 10.0           |
| BD114 | Dougherty, S.<br>Pittard, J.<br>O'Connor, E.<br>Beasley, A.J.<br>Claussen, M.J.  | DRAO<br>Leeds<br>UPEI<br>NRAO-Santiago<br>NRAO-Socorro   | Structural monitoring of colliding-wind binary WR140                            |      | 4,6                        | 22                | 12.0           |
| BG164 | Gugliucci, N.<br>Giroletti, M.<br>Peck, A.<br>Taylor, G.   | Virginia<br>INAF<br>SMA<br>UNM   | Investigating Faraday screens for two compact symmetric objects                 |      | 2,4                        | 19,28             | 15.6           |
| BH136 | Hachisuka, K.<br>Brunthaler, A.<br>Hagiwara, Y.<br>Menten, K.<br>Mochizuki, N.<br>Reid, M.   | MPIfR<br>JIVE<br>NAOJ<br>MPIfR<br>ISAS<br>CfA  | Astrometry of H2O maser sources in the outer part of the galaxy                 |      | 1                          | 17                | 6.0            |
| BK114 | Kondratko, P.T.<br>Greenhill, L.J.<br>Moran, J.<br>Reid, M.  | Harvard<br>CfA<br>CfA<br>CfA   | Imaging three NGC 4258-like water megamasers                                    |      | 1.3 With<br>EB, GB,<br>Y27 | 29                | 15.0           |
| BK127 | Knudsen, K.<br>Walter, F.<br>Momjian, E.<br>Carilli, C.<br>Yun, M.   | MPIA<br>MPIA<br>Arecibo<br>NRAO-Socorro<br>Massachusetts   | Imaging two submm-bright quasars at redshift 2.8                                |      | 18 With<br>AR, GB,<br>Y27  | 30                | 7.25           |
| BL128 | Loinard, L.<br>Mioduszewski, A.<br>Rodriguez, L.<br>Torres, R.   | UNAM<br>NRAO-Socorro<br>UNAM<br>UNAM   | Distance to Taurus and Ophiuchus  |      | 4                          | 1,20              | 8.25           |
| BL137 | Lister, M.<br>Aller, H.D.<br>Aller, M.F.<br>Arshakian, T.<br>Homan, D.<br>Kadler, M.<br>Kellermann, K.<br>Kovalev, Y.<br>Lobanov, A.<br>Ros, E.<br>Vermeulen, R.<br>Zensus, J.A. | Purdue<br>Michigan<br>Michigan<br>MPIfR<br>Denison<br>MPIfR<br>NRAO-CV<br>NRAO-GB<br>MPIfR<br>MPIfR<br>ASTRON<br>MPIfR   | MOJAVE II   |      | 2,4                        | 5,28              | 48.0           |

## VLBA Utilization Report April 2006

| Progm | Observer   | Affiliation  | Program Title   | Stns | Bands<br>cm | Observing<br>Date | Sched<br>Hours |
|-------|--|--|---|------|-------------|-------------------|----------------|
| BL139 | Lobanov, A.<br>Alef, W.<br>Arshakian, T.<br>Chavushyan, V.<br>Mercado, A.<br>Shapovalova, A.                     | MPIFR<br>MPIFR<br>MPIFR<br>INAOE<br>INAOE<br>SAO, Russia   | Parsec-scale radio emission, accretion disk and broad-line region in 3C 390.3         |      | 1,2,0.7     | 24                | 8.0            |
| BM229 | Marscher, A.<br>Aller, M.<br>D'Arcangelo, F.<br>Jorstad, S.<br>McHardy, I.                                       | Boston<br>Michigan<br>Boston<br>Boston<br>Southampton  | Probing compact jets through multi-waveband variability and polarization              |      | 0.7         | 10                | 16.0           |
| BM230 | Marscher, A.<br>Aller, M.F.<br>Jorstad, S.<br>McHardy, I.<br>Wannawichian, S.                                    | Boston<br>Michigan<br>Boston<br>Southampton<br>Boston  | Relation between the X-ray state and energy flow into jets of radio galaxies          |      | 0.7         | 21                | 10.0           |
| BM235 | Moellenbrock, G.<br>Beasley, A.<br>Claussen, M.<br>Goss, W.M.  | NRAO-Socorro<br>NRAO-ALMA<br>NRAO-Socorro<br>NRAO-Socorro  | Parallax and proper motions of galactic water masers                                  |      | 1           | 8                 | 4.0            |
| BM241 | More, A.<br>Porcas, R.<br>Garrett, M.A.<br>Nair, S.  | MPIFR<br>MPIFR<br>JIVE<br>Raman Inst.  | Imaging the gravitational lens 2016+112 at 8.4 and 15 GHz                             |      | 4           | 30                | 7.75           |
| BM244 | Moscadelli, L.<br>Beltran, M.T.<br>Cesaroni, R.<br>Codella, C.<br>Furuya, R.<br>Goddi, C.                        | Cagliari<br>Barcelona<br>Arcetri<br>IRA<br>Caltech<br>Cagliari   | Gas kinematics around high mass YSOs explored via maser associations                  |      | 1           | 9,17,23           | 18.0           |
| BM245 | Marscher, A.P.<br>Jorstad, S.G.<br>D'Arcangelo, F.<br>Gear, W.K.<br>Hagen-Thorn, V.<br>Smith, P.<br>Larionov, V. | Boston Univ.<br>Boston Univ.<br>Boston Univ.<br>Cardiff<br>St. Petersburg<br>Arizona<br>St. Petersburg | Blazar monitoring during a ten day submm/ir/optical campaign                          |      | 0.7         | 4                 | 16.0           |
| B0026 | O'Brien, T.J.<br>Bode, M.<br>Davis, R.<br>Evans, A.<br>Eyres, S.<br>Porcas, R.                                   | Manchester<br>JMU<br>Manchester<br>Keele<br>Lancashire<br>MPIFR  | Resolving the radio emission from the 2006 outburst of the recurrent nova RS Ophiuchi |      | 6, 20       | 2,16              | 21.4           |
| B0027 | O'Brien, T.<br>Beswick, R.<br>Bode, M.F.<br>Eyres, S.<br>Garrington, S.<br>Muxlow, T.<br>Porcas, R.              | Manchester<br>Manchester<br>JMU<br>Lancashire<br>Manchester<br>Manchester<br>MPIFR                     | Monitoring the expanding radio remnant of RS Oph                                      |      | 20          | 25                | 10.75          |
| BP124 | Punsly, B.<br>Ulvestad, J.<br>Wrobel, J.   | Boeing<br>NRAO-Socorro<br>NRAO-Socorro   | Imaging the inner 1 parsec of Mrk 231   |      | 1,2,0.7     | 27                | 8.0            |
| BP128 | Peck, A.<br>Marrone, D.<br>Myers, S.<br>Taylor, G.<br>Zavala, B.   | CfA<br>Harvard<br>NRAO-Socorro<br>UNM<br>USNO  | Multi-wavelength analysis of record outburst in 3C454.3                               |      | 1,2,4,6     | 4                 | 6.0            |
| BR100 | Reid, M.<br>Greenhill, L.<br>Menten, K.<br>Moscadelli, L.<br>Xu, Y.<br>Zheng, X.W.                               | CfA<br>CfA<br>MPIFR<br>Cagliari<br>Nanjing<br>Nanjing  | Spiral structure and kinematics of Milky Way  |      | 2           | 6,7,15            | 30.0           |
| BR106 | Reid, M.<br>Menten, K.   | CfA<br>MPIFR   | Enigmatic star VY CMa   |      | 0.7         | 16                | 8.25           |

## VLBA Utilization Report April 2006

| Progm  | Observer  | Affiliation  | Program Title  | Stns | Bands<br>cm                                | Observing<br>Date           | Sched<br>Hours |
|--------|---|--|--|------|--|-----------------------------|----------------|
| BR119  | Ros, E.<br>Aller, H.D.<br>Aller, M.<br>Angelakis, E.<br>Irwin, J.<br>Kadler, M.<br>Kaufmann, S.<br>Kerp, J.<br>Kovalev, Y.<br>Marscher, A.<br>Weaver, K.<br>Zensus, J.                                  | MPIfR<br>Michigan<br>Michigan<br>MPIfR<br>Michigan<br>NASA<br>Argelander Inst.<br>Argelander Inst.<br>NRAO-GB<br>Boston<br>NASA<br>MPIfR                         | NGC 1052, key to explore disk-jet connection                                       |      | 0.7, 1                                     | 19                          | 6.0            |
| BR122  | Ros, E.<br>Aller, H.<br>Aller, M.<br>Kadler, M.<br>Kellermann, K.<br>Kovalev, Y.<br>Lister, M.<br>Lobanov, A.<br>Miller, R.<br>Norris, J.<br>Sambruna, R.<br>Savolainen, T.<br>Wiik, K.<br>Zensus, J.A. | MPIfR<br>Michigan<br>Michigan<br>NASA<br>NRAO-CV<br>NRAO-GB<br>Purdue<br>MPIfR<br>Georgia State<br>NASA<br>NASA<br>Tuorla Obs<br>Tuorla Obs<br>MPIfR             | Catching the flare in CTA 102  |      | 0.7, 1, 2, 4,<br>6, 13                     | 14                          | 6.0            |
| BS167  | Sokoloski, J.<br>Brocksopp, C.<br>Kaiser, C.<br>Mioduszewski, A.<br>Rupen, M.   | Cfa<br>MSSL<br>Southampton<br>NRAO-Socorro<br>NRAO-Socorro   | Expanding shell and jet of RS Ophiuchus  |      | 13, 20                                     | 4                           | 4.0            |
| BT085  | Taylor, G.<br>Blandford, R.<br>Fassnacht, C.<br>Gehrels, N.<br>Michelson, P.<br>Myers, S.<br>Pearson, T.<br>Readhead, T.<br>Romani, R.<br>Sjouwerman, L.<br>Ulvestad, J.<br>Walker, C.<br>Weintraub, L. | UNM<br>Stanford<br>Calif.-Davis<br>NASA<br>Stanford<br>NRAO-Socorro<br>Caltech<br>Caltech<br>Stanford<br>NRAO-Socorro<br>NRAO-Socorro<br>NRAO-Socorro<br>Caltech | VLBA Imaging and polarimetry survey (VIPS)   |      | 6  | 3, 14                       | 22.0           |
| BV059  | Vlemmings, W.<br>Torreilles, J.<br>vanLangevelde, H.  | Manchester<br>CSIC<br>JIVE   | Co-evolution of Methanol and water maser filaments in Cepheus A starforming region |      | 1  | 8                           | 5.0            |
| BW082  | Walker, C.<br>Hardee, P.<br>Junor, B.<br>Ly, C.   | NRAO-Socorro<br>Alabama<br>LANL<br>Calif.-Los Angeles  | Pilot project for an M87 movie at 43 GHz   |      | .7   | 8, 11, 14                   | 50.0           |
| RDV056 | Johnston, K.<br>Fey, A.<br>Ma, C.<br>Gordon, D.<br>Boboltz, D.<br>Kingham, K.<br>Behrend, D.<br>Gipson, J.<br>MacMillan, D.<br>Petrov, L.<br>Fomalont, E.<br>Walker, C.                                 | USNO<br>USNO<br>NASA-GSFC<br>Raytheon-GSFC<br>USNO<br>USNO<br>NVI-GSFC<br>NVI-GSFC<br>NVI-GSFC<br>NASA-GSFC<br>NRAO-CV<br>NRAO-Socorro                           | Geodesy/astrometry observations for 2006   |      | 3.6 With<br>GcGgHhKbMa<br>OnTcVawfwz<br>Zc | 25<br>Scheduled<br>as RDV56 | 25.0           |
|        | Staff   | NRAO   | Maintenance  |      |  |                             | 92.0           |



Based on Actual Hours Observed

The average downtime was 16.48 hours 3.6%

Actual observing time was 441.32 hours

The VLBA was scheduled 82.5% of the time 594.4 hours of a possible 744 hours

|                           |   |       |               |
|---------------------------|---|-------|---------------|
| Astronomical Observations | = | 63.6% | (457.8 hours) |
| Tests and Calibrations    | = | 9.5%  | ( 68.6 hours) |
| Maintenance               | = | 9.4%  | ( 68.0 hours) |

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Based on Scaled Observing Hours

Number of hours of observing possible = 720 hours

Number of scaled hours of astronomical observations = 576.1 hrs

Downtime = 3.8% (20.7 hours)

Actual observing = 555.4 hours

## VLBA Utilization Report March 2006

| Progm | Observer  | Affiliation  | Program Title   | Stns | Bands<br>cm                    | Observing<br>Date     | Sched<br>Hours |
|-------|---|--|---|------|--------------------------------|-----------------------|----------------|
| BB184 | Braatz, J.<br>Greenhill, L.<br>Henkel, C.<br>Moran, J.<br>Wilson, A.  | NRAO-GB<br>CfA<br>MPIfR<br>CfA<br>Maryland   | Imaging nuclear H2O masers in NGC 4388,<br>NGC 5728 and NGC 6323                          |      | 1.3 With<br>EB, GB             | 26                    | 10.0           |
| BB217 | Boyce, E.<br>Winn, J.N.<br>Myers, S.T.<br>Rusin, D.<br>Hewitt, J.<br>Keeton, C.   | MIT<br>CfA<br>NRAO-Socorro<br>Pennsylvania<br>MIT<br>Rutgers Univ.   | Observations of gravitational lens central<br>images                                      |      | 6 With EB,<br>GB, Y27          | 16                    | 4.25           |
| BB220 | Boboltz, D.<br>Driebe, T.<br>Ohnaka, K.<br>Wittkowski, M.   | USNO<br>MPIfR<br>MPIfR<br>ESO  | Coordinated VLBA/VLTI Obs. of GX Mon  |      | 7                              | 13                    | 5.0            |
| BB221 | Brunthaler, A.<br>Castangia, P.<br>Flacke, H.<br>Henkel, C.<br>Menten, K.<br>Reid, M.<br>Tarchi, A.   | MPIfR<br>Oss. di Cagliari<br>ASTRON<br>MPIfR<br>MPIfR<br>CfA<br>IRA  | Nuclear H2O maser in NGC 253  |      | 1.3                            | 11                    | 8.0            |
| BB222 | Bower, G.<br>Basri, G.<br>Bolatto, A.<br>Ford, E.<br>Goldstone, J.<br>Graham, J.<br>Kalas, P.<br>Marcy, G.<br>Matthews, B.<br>Sandstrom, K.<br>Wright, J. | Calif.-Berkeley<br>Calif.-Berkeley<br>Calif.-Berkeley<br>Calif.-Berkeley<br>Calif.-Berkeley<br>Calif.-Berkeley<br>Calif.-Berkeley<br>HIA<br>Calif.-Berkeley<br>Calif.-Berkeley | Astrometric detection of planets around<br>nearby stars                                   |      | 3.6                            | 21,23,24,2<br>5,26,30 | 44.0           |
| BC152 | Claussen, M.<br>Marvel, K.<br>Simpson, C.<br>Wilking, B.<br>Wootten, H.   | NRAO-Socorro<br>AAS<br>Wellesley<br>UMSL<br>NRAO-CV  | Parallax and proper motions of water<br>masers in the Ophiuchi molecular cloud<br>complex |      | 1.3                            | 2,17,30               | 15.0           |
| BC156 | Claussen, M.<br>Bond, H.<br>Evans, A.<br>Gehrz, R.<br>Healy, K.<br>Rushton, M.<br>Starrfield, S.<br>Woodward, C.  | NRAO-Socorro<br>STSci<br>Keele<br>Minnesota<br>ASU<br>Keele<br>ASU<br>Minnesota  | Sio masers in V838 Monocerotis  |      | 7                              | 22                    | 8.0            |
| BD108 | Dodson, R.<br>Alcolea, J.<br>Bujarrabal, V.<br>Colomer, F.<br>Rioja, M.J.<br>Soria-Ruiz, R.   | ISAS<br>OAN<br>OAN<br>OAN<br>OAN   | Frequency phase transfer astrometry to<br>align AGB star maser images                     |      | 1.3                            | 10                    | 6.0            |
| BF075 | Filho, M.<br>Barthel, P.<br>Nagar, N.   | CNR<br>Kapteyn<br>Kapteyn  | Jets in composite LINER/HII Nuclei  |      | 18                             | 5,20                  | 16.2           |
| BG164 | Gugliucci, N.<br>Giroletti, M.<br>Peck, A.<br>Taylor, G.  | Univ. Virginia<br>INAF<br>CfA<br>UNM   | Investigating Faraday screens for two<br>compact symmetric objects                        |      | 2                              | 15                    | 9.0            |
| BH139 | Hough, D.H.<br>Aars, C.   | Trinity<br>Angelo State Univ.  | Imaging the faint nucleus in FR II radio<br>galaxy 3C 441                                 |      | 3.6 With<br>AR, EB,<br>GB, Y27 | 26                    | 3.0            |
| BL128 | Loinard, L.<br>Mioduszewski, A.<br>Rodriguez, L.<br>Torres, R.M.  | UNAM<br>NRAO-Socorro<br>UNAM<br>UNAM   | Distance to Taurus and Ophiuchus from<br>multi-epoch VLBA observations                    |      | 3.6                            | 1,15,24,28<br>,31     | 20.0           |

## VLBA Utilization Report March 2006

| Progm | Observer   | Affiliation  | Program Title   | Stns | Bands<br>cm      | Observing<br>Date | Sched<br>Hours |
|-------|--|--|---|------|------------------|-------------------|----------------|
| BL137 | Lister, M.<br>Aller, H.D.<br>Aller, M.F.<br>Arashakian, T.<br>Homan, D.<br>Kadler, M.<br>Kellerman, K.<br>Kovalev, Y.Y.<br>Lobanov, A.<br>Ros, E.<br>Vermeulen, R.<br>Zensus, J.A. | Purdue<br>Michigan<br>Michigan<br>MPIfR<br>Denison<br>MPIfR<br>NRAO-CV<br>NRAO-GB<br>MPIfR<br>MPIfR<br>ASTRON<br>MPIfR             | MOJAVE II Program   |      | 2                | 9                 | 24.0           |
| BM229 | Marscher, A.<br>Aller, M.<br>D'Arcangelo, F.<br>Jorstad, S.<br>McHardy, I.   | Boston<br>Michigan<br>Boston<br>Boston<br>Southampton  | Probing compact jets through multi-waveband variability and polarization              |      | 1.3, 7           | 12                | 16.0           |
| BM230 | Marscher, A.<br>Aller, M.F.<br>Jorstad, S.<br>McHardy, I.<br>Wannawichian, S.  | Boston<br>Michigan<br>Boston<br>Southampton<br>Boston  | Relation between the X-Ray state and energy flow into jets of radio galaxies          |      | 7                | 5,29              | 20.0           |
| BN234 | Menten, K.<br>Reid, M.   | MPIfR<br>Cfa   | Parallax and proper motion of Orion X-ray stars                                       |      | 3.6              | 1                 | 10.0           |
| BM235 | Moellenbrock, G.<br>Beasley, A.<br>Claussen, M.<br>Goss, M.  | NRAO-Socorro<br>NRAO-Santiago<br>NRAO-Socorro<br>NRAO-Socorro  | Parallax and proper motions of Galactic Water masers                                  |      | 1.3              | 17                | 4.0            |
| BM245 | Marscher, A.P.   | Boston Univ.   | Blazar monitoring during a ten day submm/ir/optical campaign                          |      | 0.7              | 26, 30            | 32.0           |
| BM249 | Miller-Jones, J.<br>Fender, R.<br>Rupen, M.  | Amsterdam<br>Southampton<br>NRAO-Socorro   | Following the transient ejecta of GRS 1915+105 out to arcsecond scales                |      | 18, 3.6          | 4,6,9             | 18.0           |
| BO022 | Ohnaka, K.<br>Boboltz, D.<br>Driebe, T.<br>Murakawa, K.<br>Wittkowski, M.  | MPIfR<br>USNO<br>MPIfR<br>MPIfR<br>ESO   | Solve the silicate carbon star puzzle   |      | 1.3              | 4,16,19           | 15.0           |
| BO026 | O'Brien, T.<br>Bode, M.<br>Davis, R.<br>Evans, A.<br>Eyles, S.<br>Porcas, R.   | Manchester<br>John Moores<br>Manchester<br>Keele<br>Central Lancashire<br>MPIfR  | Resolving the radio emission from the 2006 outburst of the recurrent nova RS Ophiuchi |      | 6                | 13                | 10.7           |
| BP119 | Pal, S.<br>Chakrabarti, S.   | Centre for Space Phy<br>SNBNCBS, India   | Multi-wavelength obs. of SS 433 in flare  |      | 6                | 6                 | 6.0            |
| BP126 | Papageorgiou, A.<br>Cawthorne, T.V.  | Lancashire<br>Lancashire   | Polarimetry of knot K1 in 3C 380  |      | 6, 18 With<br>Y1 | 25                | 6.0            |
| BR100 | Reid, M.<br>Greenhill, L.<br>Menten, K.<br>Moscadelli, L.<br>Xu, Y.<br>Zheng, X.W.   | Cfa<br>Cfa<br>MPIfR<br>Cagliari<br>Nanjing<br>Nanjing  | Spiral structure and kinematics of Milky Way  |      | 2                | 16,22             | 19.75          |
| BR119 | Ros, E.<br>Aller, H.D.<br>Aller, M.<br>Angelakis, E.<br>Irwin, J.<br>Kadler, M.<br>Kerp, J.<br>Kovalev, Y.Y.<br>Marscher, A.<br>Weaver, K.<br>Zensus, J.                           | MPIfR<br>Michigan<br>Michigan<br>MPIfR<br>Michigan<br>NASA-GSFC<br>Argelander Inst. for<br>NRAO-GB<br>Boston<br>NASA-GSFC<br>MPIfR | NGC 1052, Key to explore the disk jet connection in AGN continuation of VLBA campaign |      | 1.3, 7           | 6                 | 6.0            |
| BS150 | Savolainen, T.<br>Rastorgueva, E.<br>Takalo, L.<br>Valtaoja, E.<br>Valtonen, M.<br>Wiik, K.  | Tuorla<br>Tuorla<br>Tuorla<br>Tuorla<br>Tuorla<br>Tuorla   | Multi-frequency polarimetric VLBA monitoring of next predicted outburst in OJ287      |      | 1.3, 2           | 14                | 8.0            |

## VLBA Utilization Report March 2006

| Prog# | Observer  | Affiliation   | Program Title   | Stns | Bands<br>cm                      | Observing<br>Date | Sched<br>Hours |
|-------|---|---|---|------|----------------------------------|-------------------|----------------|
| BS167 | Sokoloski, J.<br>Brocksopp, C.<br>Kaiser, C.<br>Mioduszewski, A.<br>Rupen, M.   | CfA<br>MSSL<br>Southampton<br>NRAO-Socorro<br>NRAO-Socorro  | Expanding shell and jet of RS Ophiuchus   |      | 3.6, 13                          | 5,11,18,23<br>,29 | 20.0           |
| BT085 | Taylor, G.<br>Blandford, R.<br>Fassnacht, C.<br>Gehrels, N.<br>Michelson, P.<br>Myers, S.<br>Pearson, T.<br>Readhead, T.<br>Romani, R.<br>Sjouwerman, L.<br>Ulvestad, J.<br>Walker, C.<br>Weintraub, L. | UNM<br>Stanford<br>Calif., Davis<br>NASA<br>Stanford<br>NRAO-Socorro<br>Caltech<br>Caltech<br>Stanford<br>NRAO-Socorro<br>NRAO-Socorro<br>NRAO-Socorro<br>Caltech | VLBA Imaging and polarimetry survey<br>(VIPS)   |      | 2, 3.6                           | 19                | 10.7           |
| BV059 | Vielmings, W.<br>Torrelles, J.<br>vanLangevelde, H.   | Manchester<br>CSIC<br>JIVE  | Co-evolution of Methanol and water maser<br>filaments in Cepheus A starforming region |      | 1.3, 2                           | 3                 | 5.0            |
| BY021 | Yi, J.<br>Booth, R.<br>Conway, J.E.   | KASI<br>Onsala<br>Onsala  | Joint VLA/VLBA observations of SiO masers<br>in two Miras                             |      | 0.7 With<br>Y1                   | 4,24              | 17.0           |
| GM062 | Orienti, M.<br>Morganti, R.<br>Dallacasa, D.<br>Oosterloo, T.   | Bologna<br>ASTRON<br>Bologna<br>ASTRON  | Imaging the very broad HI absorption in<br>radio galaxies                             |      | 18 For<br>correlation<br>at JIVE | 3                 | 12.5           |
|       | Staff   | NRAO  | Maintenance   |      |                                  |                   | 100.0          |

Based on Actual Hours Observed

The average downtime was 24.6 hours 6.1%

Actual observing time was 378.6 hours

The VLBA was scheduled 76.7% of the time 571.0 hours of a possible 744 hours

Astronomical Observations = 54.2% (403.2 hours)  
 Tests and Calibrations = 13.1% ( 97.8 hours)  
 Maintenance = 9.4% ( 70.0 hours)

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 Based on Scaled Observing Hours

Number of hours of observing possible = 744 hours

Number of scaled hours of astronomical observations = 559.5 hrs

Downtime = 6.1% (34.1 hours)

Actual observing = 525.4 hours

## VLBA Utilization Report February 2006

| Prog# | Observer   | Affiliation  | Program Title   | Stns | Bands<br>cm | Observing<br>Date | Sched<br>Hours |
|-------|--|--|---|------|-------------|-------------------|----------------|
| BB213 | Briskin, W.<br>Romani, R.  | NRAO-Socorro<br>Stanford   | Pulsar J0538+2817   |      | 21          | 28                | 2.0            |
| BC152 | Claussen, M.<br>Marvel, K.<br>Simpson, C.M.<br>Wootten, H.   | NRAO-Socorro<br>AAS<br>Wellesley<br>NRAO-CV  | Parallax and proper motions of water masers in the Ophiuchi Molecular cloud complex |      | 1.3         | 4                 | 5.0            |
| BC161 | Cotton, W.D.<br>Danchi, W.<br>Lacasse, M.<br>Ragland, S.<br>Schloerb, P.<br>Townes, C.<br>Traub, W.  | NRAO-CV<br>NASA<br>CfA<br>CfA<br>U.Mass<br>Calif.-Berkeley<br>CfA  | Obs. of Miras with Photospheric Asymmetries II                                      |      | 7           | 3                 | 10.0           |
| BD105 | Dhawan, V.<br>Fomalont, E.<br>Lesstrade, J.-F.<br>Mioduszewski, A.<br>Rupen, M.  | NRAO-Socorro<br>NRAO-CV<br>Obs. de Paris<br>NRAO-Socorro<br>NRAO-Socorro   | Astrometry of X-ray binaries  |      | 1.3, 2      | 2                 | 5.33           |
| BD112 | Doi, A.<br>Asada, K.<br>Harada, K.<br>Inoue, M.<br>Kamenno, S.<br>Nagai, H.<br>Wajima, K.  | Yamaguchi<br>NAOJ<br>Yamaguchi<br>NAOJ<br>NAOJ<br>NAOJ<br>KAO  | Radio loud narrow-line Seyfert 1s   |      | 18          | 7, 10             | 14.0           |
| BF088 | Fish, V.<br>Harris, D.E.<br>Cheung, C.C.<br>Junor, W.  | NRAO-Socorro<br>CfA<br>Kavli<br>LANL   | Multi-frequency Hydroxyl Maser Obs. of G11.90-0.14                                  |      | 2           | 22, 27            | 15.0           |
| BH135 | Harris, D.E.<br>Cheung, C.C.<br>Junor, W.  | CfA<br>MIT<br>LANL   | Flare decay of Knot 'HST-1' in the M87 jet  |      | 20          | 3, 6              | 15.0           |
| BH136 | Hachisuka, K.<br>Brunthaler, A.<br>Hagiwara, Y.<br>Menten, K.<br>Mochizuki, N.<br>Reid, M.   | MPIfR<br>JIVE<br>NAOJ<br>MPIfR<br>ISAS<br>CfA  | Astrometry of H <sub>2</sub> O maser sources in outer part of the galaxy            |      | 1.3         | 9                 | 6.0            |
| BK130 | Fomalont, E.<br>Gordon, D.<br>Kovalev, Y.Y.<br>Petrov, L.  | NRAO-CV<br>Raytheon<br>NRAO-GB<br>NASA   | Northern Polar Cap VLBA Survey  |      | 3.6         | 14,16,23          | 72.0           |
| BL128 | Loinard, L.<br>Mioduszewski, A.<br>Rodriguez, L.<br>Torres, R.   | UNAM<br>NRAO-Socorro<br>UNAM<br>UNAM   | Distance to Taurus and Ophiuchus from multi-epoch VLBA Obs.                         |      | 3.6         | 11                | 4.0            |
| BL137 | Lister, M.L.<br>Aller, H.D.<br>Aller, M.F.<br>Arshakian, T.<br>Homan, D.<br>Kadler, M.<br>Kellermann, K.<br>Kovalev, Y.Y.<br>Lobanov, A.<br>Ros, E.<br>Vermeulen, R.<br>Zensus, J.A. | Purdue<br>Univ. Michigan<br>Univ. Michigan<br>MPIfR<br>Denison<br>MPIfR<br>NRAO-CV<br>NRAO-GB<br>MPIfR<br>MPIfR<br>ASTRON<br>MPIfR | MOJAVE II Program   |      | 2           | 12                | 24.0           |
| BM229 | Marscher, A.P.<br>Aller, M.F.<br>D'Arcangelo, F.<br>Jorstad, S.<br>McHardy, I.   | Boston<br>Michigan<br>Boston<br>Boston<br>Southampton  | Probing compact jets through multi-waveband variability and polarization            |      | 1.3         | 5                 | 16.0           |
| BM232 | Marvel, K.<br>Boboltz, D.  | AAS<br>USNO  | Measuring the proper motions of the H <sub>2</sub> O masers toward OH 12.8-0.9      |      | 1.3         | 24                | 5.0            |
| BM235 | Moellenbrock, G.<br>Beasley, A.<br>Claussen, M.<br>Goss, W.M.  | NRAO-Socorro<br>NRAO-Santiago<br>NRAO-Socorro<br>NRAO-Socorro  | Parallax and proper motions of galactic water masers                                |      | 1.3         | 22                | 4.0            |
| BM249 | Miller-Jones, J.<br>Fender, R.<br>Rupen, M.  | Amsterdam<br>Southampton<br>NRAO-Socorro   | Following the transient ejecta of GRS 1915+105 out to arcsecond                     |      | 18          | 28                | 4.0            |

## VLBA Utilization Report February 2006

| Progm  | Observer  | Affiliation  | Program Title  | Stns | Bands<br>cm                                | Observing<br>Date          | Sched<br>Hours |
|--------|---|--|--|------|--|----------------------------|----------------|
| BO026  | O'Brien, T.<br>Bode, M.F.<br>Davis, R.J.<br>Evans, A.<br>Eyres, S.<br>Porcas, R.  | Manchester<br>John Moores<br>Manchester<br>Keele<br>Central Lancashire<br>MPIFR  | Resolving the radio emission from 2006<br>outburst of recurrent nova RS Ophiuchi |      | 18   | 26                         | 10.75          |
| BR100  | Reid, M.<br>Greenhill, L.<br>Menten, K.<br>Moscadelli, L.<br>XU, Y.<br>Zheng, X.W.  | CfA<br>CfA<br>MPIFR<br>Gagliari<br>Nanjing<br>Nanjing  | Spiral structure and kinematics of the<br>Milky Way                              |      | 2  | 25                         | 10.0           |
| BS161  | Szymczak, M.<br>Bartkiewicz, A.<br>Diamond, P.<br>Gerard, E.  | Torun<br>Torun<br>Manchester<br>Obs. de Paris  | Polarized OH outburst in a proto-planetary<br>nebulae                            |      | 18   | 13                         | 12.0           |
| BT085  | Taylor, G.<br>Blandford, R.<br>Fassnacht, C.<br>Gehrels, N.<br>Michelson, P.<br>Myers, S.<br>Pearson, T.<br>Readhead, T.<br>Romani, R.<br>Sjouwerman, L.<br>Ulvestad, J.<br>Walker, C.<br>Weintraub, L. | UNM<br>Stanford<br>Calif.-Davis<br>NASA<br>Stanford<br>NRAO-Socorro<br>Caltech<br>Caltech<br>Stanford<br>NRAO-Socorro<br>NRAO-Socorro<br>NRAO-Socorro<br>Caltech | VLBA Imaging and polarimetry survey (VIPS)                                       |      | 2  | 9, 25                      | 21.20          |
| GC025  | Charlot, P.<br>Pradel, N.<br>Lestrade, J.-F.  | Bordeaux<br>Bordeaux<br>Meudon   | Phase-reference astrometry of compact<br>symmetric objects                       |      | 3.6 With<br>EB, WB,<br>ON, MC, HH          | 18                         | 24.0           |
| GK034  | Kharb, P.<br>Shastri, P.<br>Gabuzda, D.<br>O'Dea, C.<br>Baum, S.  | Rochester<br>IIA<br>Cork<br>Rochester<br>Rochester   | Parsec-scale polarization in FRI and FRII<br>radio galaxies                      |      | 3.6<br>Correlated<br>at JIVE               | 20                         | 14.0           |
| GM060  | McKean, J.P.<br>Browne, I.W.A.<br>Fassnacht, C.<br>Koopmans, L.<br>Porcas, R.   | Calif.-Davis<br>Jodrell Bank<br>Calif.-Davis<br>Groningen<br>MPIFR   | Structure in lensed images of CLASS<br>B2108+213                                 |      | 6<br>Correlated<br>at JIVE                 | 17                         | 10.0           |
| RDV055 | Gipson, J.<br>Johnston, K.<br>Fey, A.<br>Ma, C.<br>Gordon, D.<br>Boboltz, D.<br>Kingham, K.<br>Behrend, D.<br>Gipson, J.<br>MacMillan, D.<br>Petrov, L.<br>Fomalont, E.<br>Walker, C.                   | NASA<br>USNO<br>USNO<br>NASA-GSFC<br>Raytheon-GSFC<br>USNO<br>USNO<br>NVI-GSFC<br>NVI-GSFC<br>NVI-GSFC<br>NASA-GSFC<br>NRAO-CV<br>NRAO-Socorro                   | Geodesy/astrometry observations for 2006   |      | 3.6 With<br>GcGgHhHoKk<br>MaMcTcVaWf<br>Wz | 1<br>Scheduled<br>as RDV55 | 24.12          |
|        | Staff   | NRAO   | Maintenance  |      |  |                            | 92.0           |

Based on Actual Hours Observed

The average downtime was 8.2 hours 2.5%

Actual observing time was 320.0 hours

The VLBA was scheduled 70.8% of the time 476.0 hours of a possible 672 hours

|                           |   |       |               |
|---------------------------|---|-------|---------------|
| Astronomical Observations | = | 48.8% | (328.2 hours) |
| Tests and Calibrations    | = | 10.1% | ( 68.0 hours) |
| Maintenance               | = | 11.9% | ( 79.8 hours) |

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Based on Scaled Observing Hours

Number of hours of observing possible = 672 hours

Number of scaled hours of astronomical observations = 369.4 hrs

Downtime = 2.5% (9.24 hours)

Actual observing = 360.16 hours

## VLBA Utilization Report January 2006

| Progm | Observer  | Affiliation   | Program Title  | Stns | Bands<br>cm                           | Observing<br>Date | Sched<br>Hours |
|-------|---|---|--|------|---------------------------------------|-------------------|----------------|
| BB191 | Barvainis, R.<br>Ulvestad, J.S.<br>Birkinshaw, M.<br>Lehar, J.  | NSF<br>NRAO-Socorro<br>Bristol<br>CombinatoRx                                   | Radio-quiet quasars  |      | 6 With AR,<br>EB, GB,<br>Y27          | 30                | 3.0            |
| BB200 | Brunthaler, A.<br>Falcke, H.<br>Greenhill, L.<br>Henkel, C.<br>Reid, M.   | JIVE<br>ASTRON<br>Cfa<br>MPIfR<br>Cfa   | Geometric distance to M33:Proper motion of M33/50  |      | 1.3                                   | 16,19             | 24.0           |
| BB218 | Bietenholz, M.F.<br>Bartel, N.<br>Rupen, M.   | York U.<br>York U.<br>NRAO-Socorro  | Structure of source near center of Ursa Minor dSph galaxy                                  |      | 18 With<br>EB, GB                     | 2                 | 7.90           |
| BC152 | Claussen, M.<br>Marvel, K.<br>Simpson, C.M.<br>Wilking, B.<br>Wootten, H.                                       | NRAO-Socorro<br>AAS<br>Wellesley<br>UMSL<br>NRAO-CV                             | Parallax and proper motions of water masers  |      | 1.3                                   | 6,18              | 10.0           |
| BC156 | Claussen, M.<br>Bond, H.<br>Evans, A.<br>Gehrz, R.<br>Healy, K.<br>Rushon, M.<br>Starrfield, S.<br>Woodward, C. | NRAO-Socorro<br>STScI<br>Keele<br>Minnesota<br>ASU<br>Keele<br>ASU<br>Minnesota | SiO masers in V838 Monocerotis   |      | 0.7                                   | 6                 | 8.0            |
| BC159 | Claussen, M.J.<br>Sjouwerman, L.  | NRAO-Socorro<br>NRAO-Socorro  | Possible bipolar pre-planetary nebula OH19.2-0.1   |      | 18 With Y1                            | 23                | 8.0            |
| BD105 | Dhawan, V.<br>Fomalont, E.<br>Lestrade, J.-F.<br>Mioduszewski, A.<br>Rupen, M.                                  | NRAO-Socorro<br>NRAO-CV<br>Obs. de Paris<br>NRAO-Socorro<br>NRAO-Socorro        | VLBA Astrometry of X-ray binaries  |      | 1.3, 2                                | 2,29              | 10.20          |
| BD109 | Dougherty, S.<br>Pittard, J.<br>O'Connor, E.<br>Beasley, A.J.<br>Claussen, M.J.                                 | DRAO<br>Leeds<br>UPEI<br>NRAO-Santiago<br>NRAO-Socorro                          | Structural monitoring of colliding-wind binary WR140                                       |      | 0.7, 1.3,<br>2, 3.6, 6,<br>18 With Y1 | 20                | 12.0           |
| BD115 | Dodson, R.<br>Alcolea, J.<br>Bujarrabal, V.<br>Colomer, F.<br>Rioja, M.J.<br>Soria-Ruiz, R.                     | ISAS<br>OAN<br>OAN<br>OAN<br>OAN<br>JIVE  | Frequency Phase transfer astrometry to align AGB star maser images                         |      | 0.7                                   | 7                 | 6.0            |
| BG161 | Gabuzda, D.<br>Moloney, B.<br>deBruyn, A.G.<br>Macquart, J.-P.<br>Guryits, L.I.                                 | Cork<br>University Cork<br>ASTRON<br>NRAO-Socorro<br>JIVE                       | Polarimetric imaging of scintillating quasar J1819+3845                                    |      | 0.7, 1.3,<br>2, 3.6<br>With Y27       | 6                 | 15.0           |
| BK127 | Knudsen, K.<br>Walter, F.<br>Momjian, E.<br>Carilli, C.<br>Yun, M.  | MPIA<br>MPIA<br>Arecibo<br>NRAO-Socorro<br>Massachusetts                        | Imaging two submm-bright quasars at redshift 2.8   |      | 18 With<br>GB, Y27                    | 9                 | 7.0            |
| BK129 | Kameno, S.<br>Nakai, N.<br>Sato, N.<br>Sawada-Sato, S.<br>Yoshikawa, R.   | NAOJ<br>Tsukuba Univ.<br>Nobeyama Radio Obs.<br>ASTIAA<br>Univ. Tokyo           | Water maser tomography through molecular torus of NGC 1052                                 |      | 1.3, 2                                | 3                 | 4.0            |
| BL128 | Loinard, L.<br>Mioduszewski, A.<br>Rodriguez, L.F.<br>Torres, R.M.  | UNAM<br>NRAO-Socorro<br>UNAM<br>UNAM  | Distance to Taurus and Ophiuchus from multi-epoch VLBA obs.                                |      | 4                                     | 8,18,21,23        | 16.0           |
| BL138 | Leurini, S.<br>Beuther, H.<br>Menten, K.<br>Moscadelli, L.  | MPIfR<br>Cfa<br>MPIfR<br>Cagliari   | Complementing thermal with H2O and CH3OH maser observations in massive YSO IRAS 05358+3543 |      | 1.3                                   | 19                | 7.0            |
| BL139 | Lobanov, A.<br>Alef, W.<br>Arshakian, T.<br>Chavushyan, V.<br>Mercado, A.<br>Shapovalova, A.                    | MPIfR<br>MPIfR<br>MPIfR<br>INAOE<br>INAOE<br>SAO                                | Parsec-scale radio emissino, accretion disk and broad-line region in 3C 390.3              |      | 1.3, 2                                | 21                | 8.0            |



## VLBA Utilization Report January 2006

| Progm | Observer   | Affiliation  | Program Title   | Stns | Bands<br>cm        | Observing<br>Date | Sched<br>Hours |
|-------|--|--|---|------|--------------------|-------------------|----------------|
| BM229 | Marscher, A.<br>Aller, M.F.<br>D'Arcangelo, F.<br>JOrstad, S.<br>McHardy, I.   | Boston<br>Michigan<br>Boston<br>Boston<br>Southampton  | Probing compact jets through<br>multi-waveband variability and<br>polarization  |      | 1.3, 0.7           | 12                | 16.0           |
| BM230 | Marscher, A.<br>Ailer, M.F.<br>Jorstad, S.<br>McHardy, I.<br>Wannawichian, S.  | Boston<br>Michigan<br>Boston<br>Southampton<br>Boston  | Relation between the X-ray state and<br>energy flow into jets of radio galaxies |      | 0.7                | 3,8               | 20.0           |
| BM235 | Moellenbrock, G.<br>Beasley, A.<br>Claussen, M.<br>Goss, M.  | NRAO-Socorro<br>NRAO-Santiago<br>NRAO-Socorro<br>NRAO-Socorro  | Parallax and proper motions of galactic<br>water maser                          |      | 1.3                | 7,25              | 8.0            |
| BM238 | Momjian, E.<br>Carilli, C.<br>Walter, F.<br>Riechers, D.   | Arecibo<br>NRAO-Socorro<br>MPIA<br>MPIA  | Imaging the FIR-luminous QSO BRI 1335-0417<br>at redshift 4.4                   |      | 18 With<br>GB, Y27 | 8                 | 7.0            |
| BN035 | Nagar, N.<br>Eracleous, M.<br>Storchi-Bergmann, T<br>Strateva, I.  | Univ. de Concepcion<br>Penn State<br>UFRGS, Brazil<br>Penn State   | SDSS Galaxies with double-peaked broad H<br>lines                               |      | 6                  | 30                | 24.0           |
| BP124 | Punsly, B.<br>Ulvestad, J.<br>Wrobel, J.   | Boeing<br>NRAO-Socorro<br>NRAO-Socorro   | Imaging the inner 1 Parsec of Mrk 231   |      | 2                  | 22                | 8.0            |
| BP129 | Parra, R.<br>Conway, J.<br>Diamond, P.<br>Thrall, H.   | Onsala<br>Onsala<br>Manchester<br>Manchester   | Confirmation and follow up of new bright<br>radio supernova                     |      | 3.6, 13            | 9                 | 10.0           |
| BR099 | Ros, E.<br>Aller, H.D.<br>Aller, M.<br>Kadler, M.<br>Kerp, J.<br>Kovalev, Y.Y.<br>Marscher, A.<br>Weaver, K.A.<br>Zensus, J.A.   | MPiFR<br>Univ. Michigan<br>Univ. Michigan<br>MPiFR<br>Univ. Bonn<br>NRAO-GB<br>Boston Univ.<br>GSFC<br>MPiFR   | NGC 1052, key to explore the disk-jet<br>connection in AGN                      |      | 1.3, 0.7           | 15                | 5.90           |
| BR100 | Reid, M.<br>Greenhill, L.<br>Menten, K.<br>Moscadelli, L.<br>Xu, Y.<br>Zheng, X.W.   | Cfa<br>Cfa<br>MPiFR<br>Cagliari<br>Nanjing<br>Nanjing  | Spiral structure and kinematics of the<br>Milky Way                             |      | 2                  | 13                | 10.0           |
| BT085 | Taylor, G.<br>Blandford, R.<br>Fasnacht, C.<br>Gehrels, N.<br>Michelson, P.<br>Myers, S.<br>Pearson, T.<br>Readhead, T.<br>Romani, R.<br>Sjouwerman, L.<br>Ulvestad, J.<br>Walker, C.<br>Weintraub, L. | UNM<br>Stanford<br>Calif.-Davis<br>NASA<br>Stanford<br>NRAO-Socorro<br>Caltech<br>Caltech<br>Stanford<br>NRAO-Socorro<br>NRAO-Socorro<br>NRAO-Socorro<br>Caltech | VLBA Imaging and polarimetric survey<br>(VIPS)                                  |      | 2                  | 3,7,28            | 32.70          |
|       | Staff  | NRAO   | Maintenance   |      |                    |                   | 103.0          |

Based on Actual Hours Observed

The average downtime was 11.2 hours 3.9%

Actual observing time was 276.45 hours

The VLBA was scheduled 61.7% of the time 445.3 hours of a possible 728 hours

|                           |   |       |                |
|---------------------------|---|-------|----------------|
| Astronomical Observations | = | 40.0% | (287.65 hours) |
| Tests and Calibrations    | = | 11.1% | (80.65 hours)  |
| Maintenance               | = | 10.6% | (77.00 hours)  |

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Based on Scaled Observing Hours

Number of hours of observing possible = 728 hours

Number of scaled hours of astronomical observations = 397.9 hrs

Downtime = 3.9% (15.5 hours)

Actual observing = 382.4 hours

July through September 2006 Summary of VLBA Usage

Number of hours of observing possible = 2208 hours

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Using Actual Observing Hours

Number of hours of astronomical observations = 943.1 hrs = 42.7%  
 Number of hours of calibrations/tests = 251.9 hrs = 11.4%  
 Number of hours of maintenance = 239.8 hrs = 10.8%

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totals =1434.8 hrs = 64.9%

Downtime = 4.3% = 40.2 hrs.

Actual observing = 943.1 hrs - 40.2 hrs = 902.9 hrs.

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Using Scaled Observing Hours

Number of hours of astronomical observations = 1327.3 hours

Downtime = 4.3% = 56.2 hrs.

Actual observing = 1327.3 hrs - 56.2 hrs = 1287.1 hrs.

Software Support Target Items

| Item   | Orig. Date | Rev. Date | Complete |
|--|------------|-----------|----------|
| Transcribe VLA observe/system files                            | 11/30/02   | 01/31/07  |          |
| Correlator controller operational by Modcomps                  | 04/04/05   | 07/14/06  | 09/26/06 |
| Correlator controller operational by EVLA monitor and control  | 04/04/05   | 10/30/06  |          |
| Translate and copy stored VLA monitor data from 9-track to DAT | 03/01/04   | 06/30/07  |          |

January through March 2006 Summary of VLBA Usage

Number of hours of observing possible = 2144 hours

Using Actual Observing Hours

Number of hours of astronomical observations = 1019.0 hours = 47.5%  
 Number of hours of calibrations/tests = 230.5 hours = 10.7%  
 Number of hours of maintenance = 242.8 hours = 11.3%

totals = 1492.3 hours = 69.5%

Downtime = 42.5 hours = 4.1%

Actual observing = 1019.0 hours - 42.5 hours = 976.5 hours

Using Scaled Observing Hours

Number of hours of astronomical observations = 1326.7 hours

Downtime = 55.3 hours = 4.1%

Actual observing = 1326.7 hours - 55.3 hours = 1271.4 hours

Software Support Target Items

| Item   | Orig. Date | Rev. Date | Complete |
|--|------------|-----------|----------|
| * Transcribe VLA observe/system files                            | 11/30/02   | 01/31/07  |          |
| Correlator controller operational by Modcomps                    | 04/04/05   | 06/30/06  |          |
| Correlator controller operational by EVLA monitor and control    | 04/04/05   | 06/30/06  |          |
| Modify Jobserve for 2006 leap second                             | 03/31/06   |           | 1/05/06  |
| * Translate and copy stored VLA monitor data from 9-track to DAT | 03/01/04   | 06/30/07  |          |

*\* low priority*

*move sent to local sent compact*