

VLA Utilization Report December 1997

Prog#	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AB832	Bowen, D.V. Lane, W. Briggs, F. Pettini, M.	Royal Obs. Edinburgh Groningen Groningen RGO	HI in M61, a nearby galaxy with absorption of a background quasar	20 line	28	6.5
AB841	Brand, J. Wouterloot, J.G.A.	Bologna Bonn	NH3 and H2O observations of Wb89-234	1.3 line	8	3.0
AB865	Bennett, P.	Colorado	VV Cephei		18	1.3
AC308	Condon, J. Cotton, W. Perley, R.	NRAO-CV NRAO-CV NRAO-Socorro	All sky survey	20	3, 8, 12, 19	23.0
AD406	Donaldson, S. Mundy, L.	Maryland Maryland	Material distribution during the formation of high mass stars	2, 3.6	16	6.0
ADHOC	Carilli, C.	NRAO-Socorro	Adhoc Proposal 1		9	0.5
ADHOC	Frail, D.A.	NRAO-Socorro	Adhoc Proposal 2		15	2.0
AF317	Fabian, A. DiMatteo, T. Rees, M. Carilli, C.	Cambridge Cambridge Cambridge NRAO-Socorro	Nearby X-ray emitting ellipticals	0.7, 1.3, 3.6	7	4.0
AF326	Frail, D.A. Kulkarni, S.R.	NRAO-Socorro Caltech	Search for radio counterparts of gamma ray bursters with BeppoSAX	20	1,6,8,10,16, 18,22,26,27	13.0
AF328	Feretti, L. Giovannini, G. Arnaud, M. Rusco-Femiano, R.	Bologna Bologna Saclay Frascati	Cluster-wide radio halo in A2163	6, 20	26	6.0
AF329	Franx, M. van Gorkom, J. Carilli, C.	Groningen Columbia NRAO-Socorro	CO in the most distant galaxy at z=4.92	0.7 line w/BP041	29	24.1
AH577	Halpern, J.P.	Columbia	Identification of high energy galactic gamma ray sources	20, 90	1	1.0
AH603	Harper, G. Brown, A. Bennett, P. Hummel, C. Walder, R.	Colorado Colorado Colorado USRA ETH	Radio modulation of Zeta Aur's orbitally varying HII region	3.6, 6	1	2.5
AH604	Haarsma, D.B. Hewitt, J.N. Lehar, J. Burke, B.F.	MIT MIT Cfa MIT	Monitoring gravitational lens 0957+561	3.6, 6	26	2.1
AH624	Hatchell, J. Millar, T. Fuller, G.	Manchester Manchester Manchester	SiO in hot cores associated with UC HII regions	0.7 line	5	8.0
AH626	Henning, T. Rivers, A. Kraan-Korteweg, R. Lahav, O. Burton, W.B.	UNM UNM Paris Obs. Cambridge Leiden	Galaxies discovered by the Dwingeloo HI survey	20 line w/BP041	28	11.0
AH628	Hjellming, R.M. Mioduszewski, A.J. Rupen, M.P.	NRAO-Socorro NRAO-Socorro NRAO-Socorro	Radio and x-ray activity in galactic black holes	2, 3.6, 6, 20	6, 7, 15, 24	5.5
AH631	Hirano, N. Umamoto, T. Mikami, H. Kamazaki, T.	Hitotsubashi NAO NAO NAO	Search for protostellar candidates in dark cloud Barnard 1	3.6, 6	31	4.5
AH646	Bryant, J. Halkides, D. Reddy, N. van Zee, L.	Agnes Scott Haverford University of Texas NRAO-Socorro	Interacting galaxies NGC 2805/14/20, IC2458	20, line w/BB075	1	2.0
AJ260	Jura, M. Turner, J. Van Dyk, S.	UCLA UCLA UCLA	Dust disk in the red rectangle	0.7, 1.3, 2	22	10.0
AK438	Keohane, J.W. Rudnick, L. Koralesky, B. Petre, R. Gotthelf, E. Allen, G.E.	Minnesota Minnesota Minnesota NASA-GSFC NASA-GSFC NASA-GSFC	Enhanced shock acceleration in the supernova remnant IC 443	3.6, 6 w/move/op	30	4.0
AK446	Kawabe, R. Ohta, K. Yanada, T. Kohno, K. Nakanshi, K. Akiyama, M.	NAO Kyoto IPCR NAO Kyoto Kyoto	CO(2-1) Imaging of third highest redshift quasar BR1202-0725	0.7 line w/BD048	11, 15, 18, 21, 24, 27	49.0

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AK448	Koralesky, B. Green, A.J. Frail, D.A. Goss, M.	Minnesota Sydney NRAO-Socorro NRAO-Socorro	SNR/Molecular cloud interactions - 1720 MHz masers	20 line	19	6.0
AM547	Mirabel, F. Rodriguez, L.F.	Saclay UNAM	Large scale radio lobes in GRS 1915+105	2	14	6.0
AM554	Mundell, C.G. Done, C. Pedlar, A. Shone, D.L. Thean, A.H.C. Brinks, E.	Maryland Durham Jodrell Bank NRAL Jodrell Bank Guanajuato	Neutral hydrogen observations of Seyfert galaxy NGC 5506	20 line w/BB075	1	8.0
AM579	Miralles, M.P. Kurtz, S. Pratap, P.	Cfa UNAM Haystack	Ammonia in an outflow in the S255 IR complex	1.3 line	8	7.5
AO133	Ohashi, N. Ho, P.T.P. Zhao, J.-H. Wilner, D.	Cfa Cfa Cfa Cfa	Velocity structure of the starless core L1521F	1.3 line	1	9.0
AR377	Rudnick, L. Koralesky, B. Dickel, J.	Minnesota Minnesota Illinois	Asymmetric expansion of the Kepler SNR shells	6, 20	28	3.0
AR386	Rudnick, L. Treichel, K. Mack, K.-H. Klein, U. Katz-Stone, D.	Minnesota Minnesota Bologna Bonn USNA	Electron populations and ages in radio galaxies	6, 20, 90 w/BD046	13, 16	23.0
AS568	Sramek, R. Weiler, K. VanDyk, S. Panagia, N.	NRAO-Socorro NRL UCLA STSci	Properties of radio supernovae	1.3, 2, 3.6, 6, 20	2	1.0
AS611	Sparke, L. van Moorsel, G. Cox, A. Schwarz, U. Erwin, P.	Wisconsin NRAO-Socorro Iowa Groningen Wisconsin	HI mapping of candidate polar ring galaxy NGC 2655	20 line w/BD046	29	12.0
AS616	Kurtz, S. Shepherd, D.	UNAM Caltech	Identifying the massive YSO driving the G192 molecular outflow and determining the circumstellar disk properties	7,1.3,3.6	9	1.4
AS619	Sridharan, T.K.	Cfa	Fractal molecular cloud cores: transition to coherence	1.3 line	15	9.0
AS620	Sanson, A.E. Reynolds, C. Hibbard, J.E. Cawthorne, T.V.	Lancashire Lancashire NRAO-CV Lancashire	Mapping ancient mergers: HI in Systems with x-ray observations	20 line	3, 7	15.0
AS621	Smith, B.J. Struck, C.	IPAC Iowa State	Atomic hydrogen in bridge/ring interacting galaxy pairs	20 line	22	10.0
AS623	Schiminovich, D. van Gorkom, J. van der Hulst, J.M.	Columbia Columbia Groningen	Survey of HI in elliptical galaxies	20 line w/BD046	4, 5, 6	33.6
AS636	Steffes, P.G. Butler, B.J. Jenkins, J.M.	Georgia Tech NRAO-Socorro NASA-Ames	Simultaneous microwave/NIR imaging of Venus	1.3, 2	20	7.1
AT210	Thorsett, S.E. Taylor, J.H. Nice, D.J. Briskin, W.F.	Princeton Princeton Princeton Princeton	Timing fast pulsars at the VLA	6, 20, 90	6, 7	12.0
AT216	Torrelles, J.M. Lopez, A.	IAA UNAM	Peculiar PN Sa 2-237	3.6	22	1.0
AU076	Urbanik, M. Chyzy, K. Soida, M. Beck, R.	Jagiellonian Jagiellonian Jagiellonian MPIfR	Polarization in the perturbed face on spiral NGC 4254	3.6	12	8.0
AW472	Wilner, D. Zhang, Q. Ho, P.	Cfa Cfa Cfa	Continuum survey of Taurus Disks	0.7 w/BD048	14, 18	18.0
AW474	Wouterloot, J.G.A. Brand, J. Mack, K.-H.	Bonn Bologna Bologna	HI region Sharpless 151	20	14	1.5
AW475	Wyrowski, F. Walmsley, C.M. Natta, A. Tielens, A. Goss, M.	Cologne Arcetri Arcetri NASA-Ames NRAO-Socorro	Ionized carbon towards the reflection nebula NGC 2023	3.6 line	7, 10, 11	18.0

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AZ097	van Zee, L.	NRAO-Socorro	Gas distributions and kinematics of isolated irregular galaxies	20 line	26	10.0
AZ099	Zwaan, M. Dalcanton, J. Briggs, F.	Groningen Carnegie Obs. Groningen	Deep HI observations of very low surface brightness galaxies	20 line	14, 16, 19	24.0
AZ101	Zhang, Q. Wilner, D. Ho, P.	CfA CfA CfA	Kinematics of protoplanetary disks - ammonia and CS	0.7, 1.3	20	9.0
AZ103	Zhang, Q. Sridharan, T.K. Hunter, T.	CfA CfA CfA	Ammonia in protostellar cores	1.3 line	13	8.0
BB075	Biretta, J. Junor, B.	STScI UNM	Search for superluminal motion in the nucleus of M87	w/AH646, AM554	1	7.9
BD037	Denn, G. Mutel, R.	Iowa Iowa	Polarized VLB jet of BL Lac	1.3, 2, 6	29	1.5
BD046	Diamond, P.J. Kemball, A.J. Boboltz, D.A.	Manchester NRAO-Socorro Haystack	Monitoring SiO masers through a cycle of Mira TX Cam	0.7 Single antenna VLBI w/AS623, AR386, AS611	4, 16, 29	18.2
BD048	Doeleman, S. Barvainis, R. Lonsdale, C. Greenhill, L. Phillips, R.	Haystack Haystack Haystack CfA Haystack	SiO masers in the Orion nebula	0.7 Single antenna VLBI w/AW472, AK446	14	10.0
BG071	Goodman, A.A. Greenhill, L.J.	Harvard CfA	Zooming in on pre-main sequence star forming regions	3.6 Phased array VLBI	6	7.0
BG073	Gomez, J.L. Marscher, A.P. Alberdi, A.	ESA-LAEFF Boston ESA-LAEFF	3C 120 rapid variations	0.7, 1.3	14	2.0
BH042	Herrnstein, J.R. Moran, J.M. Greenhill, L.J.	NRAO-Socorro CfA CfA	Are quasars being ejected from the Nucleus of NGC 4258?	20 Phased array VLBI	4	10.0
BH046	Homan, D.C. Wardle, J.F.C. Roberts, D.H. Norris, R.P. Rayner, D. Sault, R.	Brandeis Brandeis Brandeis ATNF ATNF ATNF	Circular polarization in 3C 84 and 3C 279	1.3, 2, 3.6, 6	8	4.0
BP041	Peck, A. Taylor, G. Goss, M.	NMINT NRAO-Socorro NRAO-Socorro	CSO candidates at 8 and 15 GHz	2 Single antenna VLBI w/AH626, test, AF329, Software	28	24.0
BR050	Ratner, M.I. Bartel, N. Lebach, D.E. Lestrade, J.-F. Shapiro, I.I.	CfA York CfA Meudon CfA	Astrometry of the guide star for the gravity probe-b mission	3.6 Phased array VLBI	21, 27	24.0
V004	Pauliny-Toth, I.	MPIfR	SVLBI Observations of the quasar 3C454.3	6 Phased array VLBI	12	10.0
V081	Junor, B.	New Mexico	Parsec scale and sub-parsec scale jet of Virgo A	6 Phased array VLBI	19	10.9
V092	Roberts, D.H.	Illinois	Polarization space VLBI of four bright quasars	18 Phased array VLBI	11	12.0
NEWYE			New Years - No observing		31	2.5
XMAS			Christmas - No observing		24	33.6
	Staff	NRAO	Baselines, Pointing, Delays Maintenance Move/Operations Operations training Software General tests			67.0 53.5 4.0 12.7 28.9 31.6

The average downtime was 4.1%.

The array was scheduled for 95.5% (712.5 hours)  
517.6 hours (69.4% of time) for astronomical programs  
112.6 hours (15.1% of time) for tests/calibration  
82.2 hours (11.0% of time) for maintenance  
Total 712.5 hours (95.5%) scheduled.

Array was in configuration D from December 1 through December 31 .

Total Number of astronomical programs was 59.

The following independent proposals shared simultaneous observing time (66.0 hours total simultaneous observing):

Projects	Hours
AF329/BP041	12.0
AH626/BP041	10.1
AH646/BB075	1.8
AK438/MOVE/OP	4.0
AK446/ADHOC	2.0
AK446/BD048	1.9
AM554/BB075	6.0
AR386/BD046	6.0
AS611/BD046	6.2
AS623/BD046	6.0
AW472/BD048	8.1
SOFTWARE/BP041	0.3
TEST/BP041	1.5

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AR371	Roser, H-J. Perley, R. Meisenheimer, K.	MPIFA NRAO-Socorro Royal Edinburgh	Further VLA Observations of the jet in 3C273	0.7, 1.3, 2, 3.6	8	6.0
AR378	Rudnick, L. Koralesky, B. Kassim, N. Perley, R.A.	Minnesota Minnesota NRL NRAO-Socorro	Dynamical evolution and current particle acceleration in Cas A	3.6, 6, 20, 90	30	9.5
AR385	Rodriguez, L.F. Torrelles, J.M. Anglada, G.	UNAM IAA IAA	Exciting source of the HH 7-11 flow: SVS 13 or VLA 3?	1.3 line W/BD046	7	10.0
AR390	Rood, R.T. Balser, D.S. Bania, T.M. Wilson, T.L.	Virginia NRAO-GB Boston MPIFR	Continuum observations of HII regions with measured 3He	3.6	21	11.0
AS568	Panagia, N. Sramek, R.A. Van Dyk, S. Weiler, K.	STScI NRAO-Socorro Calif., Berkeley NRL	Properties of radio supernovae	90,20,6,3, 5,2,1.3	8	1.0
AS622	Simpson, C.E. Gottesman, S.T. Vilchez, J.M.	Florida Florida IAC	Comparative study of BCD and LSBD low mass dwarf galaxies	20 line	13	8.4
AS623	Schiminovich, D. van Gorkom, J. van der Hulst, J.M.	Columbia Columbia Groningen	Survey of HI in elliptical galaxies	20 line	28	19.0
AT207	Taylor, G. Giovannini, G. Feretti, L. Venturi, T. Cotton, B. Lara, L.	NRAO-Socorro Bologna Bologna Bologna NRAO-CV IAA	Large scale structure of low power radio galaxy 1144+352	6, 20	3	6.0
AT209	Troland, T. Crutcher, R.M. Roberts, D.A. Goss, M.	Kentucky Illinois Illinois NRAO-Socorro	OH Zeeman Observations Toward Orion A	20 line	19	8.6
AU075	Urbanik, M. Soida, M. Chyzy, K.	Jagiellonian Jagiellonian Jagiellonian	Magnetic fields under the influence of density waves	6		23.8
AU076	Urbanik, M. Chyzy, K. Soida, M. Beck, R.	Jagiellonian Jagiellonian Jagiellonian MPIFR	Polarization in the perturbed face on spiral NGC 4254	3.6	21	8.0
AW466	White, S. Lee, J. Kundu, M. Thomas, R. Brosius, J.	Maryland Maryland Maryland GSFC GSFC	Measuring the coronal abundance of Iron relative to hydrogen	3.6, 6, 20 W/BA02B/MOVE/OP	11, 20	19.0
AW467	Wilcots, E.M. Pisano, D.J.	Wisconsin Wisconsin	Gas dynamics in the NGC 672/IC 1727 System	20 line W/BD046	20	6.0
AW470	Wilcots, E.M.	Wisconsin	Role of interactions in shaping asymmetric galaxies	20 line	16, 17	20.5
AW471	Wootten, A. Claussen, M. Marvel, K. Wilking, B.	NRAO-CV NRAO-Socorro Caltech Missouri	Deep search for Ionized gas near IRAS 05413-0104	3.6	9	7.0
AW476	Willson, R.F. Lang, K.R. Bogod, V. Ryabov, B. Thompson, B.	Tufts Tufts Pulkova Riga GSFC	Solar noise storms, current sheets and coronal loops	6,20,90	16, 17	10.0
AY090	Yun, M. Carilli, C. van Gorkom, J.	NRAO-Socorro NRAO-Socorro Columbia	HI imaging of damped Lyman absorption at z=0.103	20 line	23	12.0
BA028	Aaron, S. Roberts, D. Wardle, J. Cohen, M.	MPIFR Brandeis Brandeis Caltech	Spiral jets in 0814+425 and 1749+701	2, 6, 20 W/AD408/AF326/AH622/AW466/AF332	10	17.0
BC074	Cawthorne, T. Rutchison, J.	Lancashire Lancashire	Polarization of quasar 4C71.07	2, 3.6	20	2.0
BD042	Dewey, R. Beasley, A.	Princeton NRAO-Socorro	VLBA observations of millisecond pulsars for frame tie	20 Phased array VLBI	22	7.9
BD046	Diamond, P.J. Kemball, A.J. Boboltz, D.A.	Manchester NRAO-Socorro Haystack	Monitoring SiO masers through a cycle of Mira TX Cam	0.7 Single antenna VLBI W/AR385/AW467/BD046	7, 20	12.0

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
BF037	Faison, M.D. Marscher, A.P.	Wisconsin Boston	Small scale structure in galactic molecular gas	6 Phased array VLBI	16	16.0
BG073	Gomez, J.L. Marscher, A.P. Alberdi, A.	IAA Boston ESA-LAEFF	3C 120 rapid variations	0.7, 1.3 W/BD046	21	2.5
BG076	Greenhill, L.J. Herrnstein, J.R. Moran, J.M. Braatz, J.A. Diamond, P.J.	CfA NRAO-Socorro CfA Maryland Manchester	Weak water masers in NGC 3735 and M51	1.3, 3.6	1	1.0
BL038	Lestrade, J.F. Phillips, R.B. Jones, D.I. Preston, R.A.	Meudon Haystack JPL JPL	Search for extra solar planets by VLBI astrometry	3.6 Phased array VLBI	13	6.0
BL049	Lestrade, J-F. Phillips, R.B. Jones, D.L. Preston, R.A.	Meudon Haystack JPL JPL	A possible Jupiter-mass planet orbiting Sigma 2 CrB	3.6 Phased array VLBI	28	12.0
BR050	Ratner, M.I. Bartel, N. Lebach, D.E. Lestrade, J.-F. Shapiro, I.I.	CfA York CfA Meudon CfA	Astrometry of the guide star for the gravity probe-b mission	3.6 Phased array VLBI	29	12.0
BT025	Trigilio, C. Umana, G. Leto, G. Beasley, A.J. Rodono, M. Buemi, C. Catalano, S. Pagano, I. Walter, F.M.	Noto Noto Noto NRAO-Socorro Catania Catania Catania Catania Bonn	Multi-wavelength studies of coronal structures on AR Lac	2, 3.6 Phased array VLBI	1, 1, 2, 3	44.5
BW034	Wilkinson, P. Marlow, D. Browne, I. Jackson, N. Readhead, A. Fassnacht, C. deBruyn, G. Myers, S.	Jodrell Bank Jodrell Bank Jodrell Bank Jodrell Bank Caltech Caltech NFRA Pennsylvania	Water masers associated with Protostar IRAS 16293-2422	1.3 With Single VLA antenna W/AR371/AH628/AD405	8	5.1
GR016	Ros, E. Marcaide, J.M. Guirado, J.C. Perez-Torres, M.A. Lara, L. Alberdi, A.	Valencia Valencia Valencia Valencia IAA ESA-LAEFF	Proper motions in quad gravitational lenses	3.6 Phased array VLBI	22	16.9
GR017	Rupen, M.P. Bartel, N. Bietenholz, M.F. Beasley, A.J. Conway, J. Rius, A. Altunin, V. Jones, D. Graham, D. Venturi, T. Umana, G.	NRAO-Socorro York York NRAO-Socorro Onsala Barcelona JPL JPL MPIfR Bologna Noto	VLBI imaging of Supernova 1993J in M81	3.6, 6, 20 Phased array VLBI	14	9.4
VT906	VSOG	ISAS	HALCA In-Orbit Checkout	6 Phased array VLBI	6	9.5
	Staff	NRAO	Baselines, Pointing, Delays Maintenance Move/Operations Holiday Software General tests Thanksgiving Shutdown		26 26	61.4 43.3 11.1 25.6 19.9 18.8 0.9

The average downtime was 2.9%.

The array was scheduled for 98.7% (690.7 hours)  
537.5 hours (74.5% of time) for astronomical programs  
90.0 hours (12.5% of time) for tests/calibration  
63.2 hours ( 8.8% of time) for maintenance  
Total 690.7 hours ( 95.8%) scheduled.

Array was in configuration D from November 1 through November 30 .

Total Number of astronomical programs was 57.

The following independent proposals shared simultaneous observing time (45.2 hours total simultaneous observing):

Projects	Hours
AD405/BW034	2.1
AD408/BA028	1.3
AF332/BA028	0.2
AF326/BA028	1.5
AF326/MOVE/OP	6.0
AH622/BA028	5.0
AH628/BW034	1.5
AR371/BW034	1.5
AR385/BD046	6.0
AW466/BA028	9.0
AW466/MOVE/OP	5.1
AW467/BD046	3.6
BG073/BD046	2.4



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AA212	Anantharamaiah, K.R. Mohan, R.N. Goss, M. Subrahmanyan, R.	Raman IIS NRAO-Socorro Raman	Radio spectrum of PKS 1830-211	1.3, 2, 3.6, 6, 20, 90	27	1.5
ABB39	Brogan, C.L. Troland, T.H. Roberts, D.A. Crutcher, R.M.	Kentucky Kentucky Illinois Illinois	VLA DnC OH Zeeman Observations Toward M17	20 line	18	8.0
ABB40	Beck, R. Shoutenkov, V. Shukurov, A. Sokoloff, D.	MPIFR Lebedev Newcastle Moscow U.	Magnetic fields in barred galaxies	3.6 W/BD046	6, 8	12.0
ABB42	Brogan, C.L. Troland, T.H. Roberts, D.A. Crutcher, R.M.	Kentucky Kentucky Illinois Illinois	VLA DnC H110 recombination line observation toward M17	6 line W/BV024	12	9.0
ABB43	Bastian, T.S. Chiuderi-Drago, F. Alissandrakis, C.	NRAO-Socorro Florence Athens	Search for linearly polarized radiation in solar active regions	3.6, 6 line	5, 19	12.5
ABB46	Balsler, D.S. DePree, C.G. Goss, M.	NRAO-GB Agnes Scott NRAO-Socorro	4He imaging of galactic HII regions	3.6 line	19	8.0
AC308	Condon, J. Cotton, W. Perley, R.	NRAO-CV NRAO-CV NRAO-Socorro	All sky survey	20	11, 13, 16, 27	38.0
AC487	Cartwright, J.K. Padian, S. Pearson, T.J. Readhead, A.C.S. Shepherd, M.C.	Caltech Caltech Caltech Caltech Caltech	VLA survey of CBI microwave background fields	3.6 W/BD046, BK051, BV024	9-14, 17-20, 30, 31	81.6
AD408	Dubner, G. Frail, D. Giacani, E. Goss, W.M. Holdaway, M. Velazquez, P.	IAFE NRAO-Socorro IAFE NRAO-Socorro NRAO-Tucson IAFE	Study of centrally influenced supernova remnants	20, 90	30	6.0
ADHOC	Dhawan, V.	NRAO-Socorro	Adhoc Proposal 1		3	0.5
ADHOC	Hjellming, R.A.	NRAO-Socorro	Adhoc Proposal 2		7	2.4
ADHOC	Frail, D.A.	NRAO-Socorro	Adhoc Proposal 3		21	3.4
ADHOC	Taylor, G.	NRAO-Socorro	Adhoc Proposal 4		22	1.3
ADHOC	Young, L.	NMSU	Adhoc Proposal 5		23	2.0
AE114	Edge, A.	Cambridge	Central galaxy of Abell 2390	20, 6, 2, 0.7	21	2.5
AF318	Florkowski, D.	USNO	Monitoring the radio emission from the Wolf-Rayet Binary HD 192641	0.7, 2, 6, 20	24	2.5
AF321	Frail, D.A. Goss, M.	NRAO-Socorro NRAO-Socorro	Identifying new pulsar wind nebulae	3.6, 6, 20	6, 10, 14, 17	14.0
AF326	Frail, D.A. Kulkarni, S.R.	NRAO-Socorro Caltech	Search for radio counterparts of gamma ray bursters with BeppoSAX	20 BK050, BV024, BD048	4, 8, 12, 16, 17, 21, 26, 29	17.6
AG465	Dhawan, V. Goss, M. Rodriguez, L.F. Frail, D.A.	NRAO-Socorro NRAO-Socorro UNAM NRAO-Socorro	Target of Opportunity: HI Observations of a Future Outburst in GRS 1915+2475	20	29	4.4
AG518	Garcia-Sanchez, J. Paredes, J.M. Preston, R.A. Jones, D.L.	Barcelona Barcelona JPL JPL	Multi-frequency observations of selected RS CVn Binaries	2, 3.6, 6, 20	2, 3, 28	10.1
AG524	Gao, Y. Lo, K.Y. Gruendl, R. Hwang, C.-Y.	Illinois Illinois Illinois Academia Sinica	Pre-starbursts in early merging or pre-merging luminous IR galaxies	20 line	20	6.0
AG525	Goldschmidt, P. Kukula, M. Dunlop, J.S. Miller, L.	Imperial Edinburgh Edinburgh Oxford	Fraction of radio loud quasars in optically selected surveys	6	31	5.0
AH604	Haarsma, D.B. Hewitt, J.N. Lehar, J. Burke, B.F.	MIT MIT CfA MIT	Monitoring gravitational lens 0957+561	3.6, 6	6	2.5
AH625	Hankins, T.H. Weatherall, J.C. Moffett, D.A.	NMIMT NMIMT Tasmania	Emission bandwidth of the crab pulsar pulses	2, 3.6, 6, 20	3, 24, 28	14.2

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AH628	Hjellming, R.M. Mioduszewski, A.J. Rupen, M.P.	NRAO-Socorro NRAO-Socorro NRAO-Socorro	Radio and x-ray activity in galactic black holes	2, 3.6, 6, 20 W/BK051	3, 9, 17, 22, 27	8.9
AH629	Hofner, P. Kurtz, S. Stecklum, B. Henning, T.	Arecibo UNAM Thuringian Jena	Remnant accretion disk and outflow from Herschel 36	0.7, 1.3, 2 line	4	9.0
A1070	Ishwara-Chandra, C.H. Saikia, D.J. Kapahi, V.K.	NCRA-Pune NCRA-Pune NCRA-Pune	Spectra of objects from the Molongolo survey	2	2, 4, 12	14.5
AK448	Koralesky, B. Green, A.J. Frail, D.A. Goss, W.M.	Minnesota Sydney NRAO-Socorro NRAO-Socorro	SNR/Molecular cloud interactions - 1720 MHz masers	20 line W/BD047	25	6.0
AK451	Kulkarni, S. Frail, D.	Caltech NRAO-Socorro	Possible SNR near newly discovered soft gamma repeater	20	10	3.0
AL400	Ledlow, M. Owen, F. Keel, W.	New Mexico State NRAO-Socorro Alabama	A powerful radio galaxy in a spiral host	3.6, 20	11	5.5
AL429	Lockley, J.J. Eyes, S.P.S. Wood, J.H.	Southampton Keele Keele	Nature of the radio emission in the peculiar binary V Sge	3.6, 6, 20	6, 14, 22	11.9
AM573	Miller, S. Veilleuz, S. Wilson, A.	Maryland Maryland Maryland	Radio halos of edge on spiral galaxies	6, 20 W/BD048	26	4.0
AM577	Marcha, M.J. Browne, I.W.A. Dennett-Thorpe, J. Anton, S.	Lisbon Jodrell Bank Lisbon Jodrell Bank	Spectral energy distribution of low luminosity AGN	0.7, 1.3, 2, 3.6, 6	4, 17, 27	17.0
AM581	Moore, C. Carilli, C. Menten, K.	Groningen NRAO-Socorro MPIFR	Search for molecular absorption at z=2.636 toward Lens 0414+053	1.3	1	4.0
A0134	Osorio, M. Lizano, S. Kurtz, S. Carral, P. Hofner, P.	UNAM UNAM UNAM Guanajuato Arecibo	7mm observations of galactic hot core regions	0.7, 1.3	5	4.0
AP355	Pauls, T. Serabyn, G. Morris, M.	NRL Caltech Calif.-Los Angeles	7mm observations of the Galactic Center Arc filaments	0.7, 1.3	20, 26	15.0
AR381	Mirabel, F. Rodriguez, L.F.	Saclay UNAM	Simultaneous Radio and x-ray observations of the remarkable sinusoidal oscillations in GRS 1915+105	6, 3.5, 2	14	1.0
AS623	Schiminovich, D. van Gorkom, J. van der Hulst, J.M.	Columbia Columbia Groningen	Survey of HI in elliptical galaxies	20 line W/BD046, AS623, BD048	24, 26	18.5
AT208	Takano, S. Hofner, P. Nakai, N. Kawaguchi, K. Winnewisser, G.	Cologne Arecibo Nobeyama Nobeyama Cologne	Observations of NH3 in NGC 253	1.3 line W/BD047, BD048	25, 26	14.5
AU073	Uchida, K.I. Morris, M.	Ohio State Calif.-Los Angeles	The GCL/AFGL 5376 Region--A 100 pc long shock	20 W/BK051	9	3.0
AU074	Uchida, K.I. Morris, M. Serabyn, E.	Ohio State Calif.-Los Angeles Caltech	The illumination of the "Snake" GC filament	3.6, 6	24	7.0
AW362	White, S.	Maryland	The stellar activity cycle on active stars	3.6, 6, 20	3	2.0
AW471	Wootten, A. Claussen, M. Marvel, K. Wilking, B.	NRAO-CV NRAO-Socorro Caltech Missouri	Deep search for Ionized gas near IRAS 05413-0104	3.6	5, 29	14.1
AW478	Waldron, W. Drake, S. Corcoran, M. Kitamoto, S.	ARC-GFSC USRA-GFSC USRA-GSFC Osaka	Study of nonthermal radio and x-ray emission from the O star, 9 Sgr	2, 3.6, 6, 20	3, 6, 10, 14, 17	7.7
AY089	Young, L.	New Mexico State	Search for HI in and around two dwarf spheroidal galaxies	20 line	15, 19	9.0
AY091	Yusef-Zadeh, F. Cotton, W.	Northwestern NRAO-CV	Nature of the large scale linear structure G3.0-1.0	6, 20	23	4.0
AZ097	van Zee, L.	NRAO-Socorro	Gas distributions and kinematics of isolated irregular galaxies	20 line	10	8.0

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
BC066	Claussen, M.J. Diamond, P.J. Braatz, J.A. Wilson, A.S. Henkel, C.	NRAO-Socorro Manchester Maryland Maryland MPIFR	Water masers in elliptical galaxy NGC 1052	1.3 Phased array VLBI	5	12.5
BD046	Diamond, P.J. Kemball, A.J. Boboltz, D.A.	Manchester NRAO-Socorro Haystack	Monitoring SiO masers through a cycle of Mira TX Cam	0.7 Single antenna VLBI W/AB840, AS623	9, 25, 31	12.9
BD047	Doelman, S. Lonsdale, C. Greenhill, L. Kemball, A. Diamond, P.	Haystack Haystack CfA NRAO-Socorro Manchester	SiO masers in VX Sgr	0.7 Single antenna VLBI W/AS623, AK448, AT208	25, 30	11.1
BD048	Doelman, S. Barvainis, R. Lonsdale, C. Greenhill, L. Phillips, R.	Haystack Haystack Haystack CfA Haystack	SiO masers in the Orion nebula	0.7 Single antenna VLBI W/AT208, AM573, AF326, AS623	25	10.0
BG071	Goodman, A.A. Greenhill, L.J.	Harvard CfA	Pre-main sequence star forming regions	3.6 Phased array VLBI	29	6.5
BK050	Kemball, A. Porcas, R. Patnaik, A.	NRAO-Socorro MPIFR MPIFR	VLBI Polarimetry of gravitational lens B0218+35.7 at 7mm	0.7 Single antenna VLBI W/TEST, AF326, BV024	13, 3	14.0
BK051	Kemball, A. Dhawan, V.	NRAO-Socorro NRAO-Socorro	Second epoch of snapshot polarization survey at 7mm	0.7 Single antenna VLBI W/AH628, AU073, TEST, AC487, BK051	9	24.0
BM049	Mioduszewski, A.J. Gabuzda, D.C. Aller, H.D.	NRAO-Socorro Lebedev Michigan	Monitoring of six highly variable BL lacertae objects	1.3, 3.6	19	2.0
BM081	Moran, J.M. Herrnstein, J.R. Greenhill, L.J. Trotter, A. Miyoshi, M. Inoue, M. Nakai, N. Diamond, P.J. Henkel, C.	CfA NRAO-Socorro CfA CfA NAO-Mitzuzawa Nobeyama Nobeyama Manchester MPIFR	Dynamics and distance of water masers in NGC 4258	1.3 Phased array VLBI	1	14.1
BS044	Sato, S. Inoue, M. Nakai, N. Shibata, K.M. Migenes, V. Kameno, S. Fujisawa, K.	Nobeyama Nobeyama Nobeyama Nobeyama Nobeyama Nobeyama ISAS	Monitoring of the continuum and H2O maser emission in NGC 3079	1.3, 2, 3.6 Phased array VLBI	2	12.0
BT025	Trigilio, C. Umana, G. Leto, G. Beasley, A.J. Rodono, M. Buemi, C. Catalano, S. Pagano, I. Walter, F.M.	Noto Noto Noto NRAO-Socorro Catania Catania Catania Catania Bonn	Multi-wavelength studies of coronal structures on AR Lac	2, 3.6 Phased array VLBI	31	11.5
BV024	Vermeulen, R.C. van Langevelde, H.-J. Kellermann, K.I. Zensus, J.A. Cohen, M.H.	NFRA JIVE NRAO-CV NRAO-CV Caltech	Shroud around the twin jets of NGC 1052	0.7, 1.3, Single antenna VLBI W/AB842, AF326, BK050, AC487	12	8.1
VT824	VSOG	ISAS	HALCA In-Orbit Checkout	18 Phased array VLBI	22	13.6
VT825	VSOG	ISAS	HALCA In-Orbit Checkout	6 Phased array VLBI	23	14.1
	Staff	NRAO	Baselines, Pointing, Delays Maintenance Move/Operations Software General tests			42.5 45.5 6.3 30.0 75.2

The average downtime was 6.3%.

The array was scheduled for 100.0% (747.1 hours)  
559.1 hours (74.8% of time) for astronomical programs  
112.5 hours (15.1% of time) for tests/calibration  
75.5 hours (10.1% of time) for maintenance  
Total 747.1 hours (100.0%) scheduled.

Array was in configuration DnC from October 1 through October 28 .

Array was in configuration D from October 28 through October 31.

Total Number of astronomical programs was 57.

The following independent proposals shared simultaneous observing time (75.0 hours total simultaneous observing):

Projects	Hours
AB840/BD046	3.9
AB842/BV024	1.2
AC487/BD046	2.0
AC487/BK051	8.0
AC487/BV024	2.3
AF321/BK051	1.0
AF326/BD048	2.0
AF326/BK050	0.7
AF326/BV024	2.5
AH628/BK051	0.5
AK448/BD047	6.0
AM573/BD048	4.0
AS623/BD046	6.0
AS623/BD047	0.4
AS623/BD048	0.1
AT208/BD048	4.0
AT208/BD047	2.6
AU073/BK051	3.0
BK050/BV024	2.0
TEST/BK050	11.3
TEST/BK051	8.5
TEST/BK051	2.4
TEST/BK051	0.6

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AB819	Balcells, M. van Gorkom, J. Sancisi, R.	IAC Columbia Kapteyn	Accreting HI on NGC 3656	20 line	6	9.0
AB845	Brown, A. Harper, G.	Colorado Colorado	Mass loss from evolved K and M stars: comparison of K5 giants	2, 3.6, 6 w/BW037, move/op, GG032	24, 27	13.5
AC483	Clarke, T.E. Kronberg, P.P. Bohringer, H.	Toronto Toronto MPE	Polarization of radio sources within and behind Abell clusters	6, 20	16	12.0
AC487	Cartwright, J.K. Padian, S. Pearson, T.J. Readhead, A.C.S. Shepherd, M.C.	Caltech Caltech Caltech Caltech Caltech	VLA survey of CBI microwave background fields	3.6	29	12.0
AC488	Cotton, W.D. Condon, J.J. Broderick, J.J.	NRAO-CV NRAO-CV VPI&SU	Low luminosity UGC AGNs	3.6, 20	17	12.0
AC494	Crosas, M. Reid, M. Menten, K. Carilli, C.	Cfa Cfa MPIfr NRAO-Socorro	Search for molecular absorption from high z damped Ly systems	0.7, 1.3, 6 line w/GG032	24, 26	8.0
AC496	Condon, J.J. Yin, Q.F.	NRAO-CV NRAO-CV	Radio selected sample of radio stars	2, 3.6, 6, 20 w/GG032, GP016	27	24.0
AD402	Duc, P.A. Brinks, E. Mirabel, I.F.	ESO Guanajuato Saclay	HI in the interacting system NGC 2992/3	20 line	7	7.1
ADHOC	Frail, D.A.	NRAO-Socorro	Adhoc Proposal 1		3	3.6
ADHOC	Dhawan, V.	NRAO-Socorro	Adhoc Proposal 2		9	3.2
AF318	Florkowski, D.	USNO	Monitoring the radio emission from the Wolf-Rayet Binary HD 192641	0.7, 2, 6, 20	10	3.6
AF326	Frail, D.A. Kulkarni, S.R.	NRAO-Socorro Caltech	Search for radio counterparts of gamma ray bursters with BeppoSAX	20 w/BD046, GV015	1,3,8,12,21, 23,26	12.5
AG516	Gao, Y. Lo, K.Y. Gruendl, R. Hwang, C.	Illinois Illinois Illinois Academia Sinica	Luminous IR galaxies in a merger sequence	20 w/GW016	17	8.0
AG518	Garcia-Sanchez, J. Paredes, J.M. Preston, R.A. Jones, D.L.	Barcelona Barcelona JPL JPL	Multi-frequency observations of selected RS CVn Binaries	2, 3.6, 6, 20	26	5.0
AG519	Gao, Y. Lo, K.Y. Gruendl, R. Hwang, C.-Y.	Illinois Illinois Illinois Academia Sinica	Pre-starbursts in pre-merging luminous IR Galaxies	20 line	13	9.0
AG525	Goldschmidt, P. Kukula, M. Dunlop, J.S. Miller, L.	Imperial Edinburgh Edinburgh Oxford	Fraction of radio loud quasars in optically selected surveys	6 w/GG032	26	4.5
AH592	Hjellming, R.M. Rupen, M.P.	NRAO-Socorro NRAO-Socorro	Monitoring galactic black hole x-ray transients	2, 3.6, 6, 20 w/GG032	4, 11, 17, 26, 30	6.8
AH603	Harper, G. Brown, A. Bennett, P. Hummel, C. Walder, R.	Colorado Colorado Colorado USRA ETH	Radio modulation of Zeta Aur's orbitally varying HII region	3.6, 6 w/move/op	25	4.0
AH604	Haarsma, D.B. Hewitt, J.N. Lehar, J. Burke, B.F.	MIT MIT Cfa MIT	Monitoring gravitational lens 0957+561	3.6, 6	22	2.1
AH606	Huchtmeier, W.K. Hopp, U. Popescu, C.C.	MPIfr Muenchen MPIA	HI Observations of dwarf galaxies in nearby voids	20 line w/GP015	21	3.0
AH608	Hunter, D.	Lowell	Four irregular galaxies spanning a range of star formation rates	20 line	7, 8, 19	18.5
AH616	Habbal, S.R. Gonzalez, R. Wang, H.	Cfa Arecibo NJIT	Solar macropicules and jetlike events	3.6, 6 w/BB077	1	11.0
AH618	Hoare, M.G. Dyson, J.E. Williams, R.J.R.	Leeds Leeds Leeds	Velocity structure of HI around cometary compact HII regions	20 line	20	3.5

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AH625	Hankins, T.H. Weatherall, J.C. Moffett, D.A.	NMIMT NMIMT Tasmania	Emission bandwidth of the crab pulsar pulses	2, 3.6, 6, 20	23	5.0
A1070	Ishwara-Chandra, C.H. Saikia, D.J. Kapahi, V.K.	NCRA-Pune NCRA-Pune NCRA-Pune	Spectra of objects from the Molongolo survey	2 w/GW016	15, 16	6.0
AK431	Kovo, O. Turner, J. Beck, S.C.	Tel Aviv UCLA Tel Aviv	Multi-frequency continuum maps of Wolf-Rayet dwarf galaxies	2 w/GP015	20	14.0
AK443	Kurtz, S. Hofner, P.	UNAM Arecibo	Methanol maser survey of massive star forming regions	0.7, 1.3 line	14	8.0
AL383	Lisenfeld, U. Alexander, P. Pooley, G.G.	Granada MRAO MRAO	Cosmic ray propagation and the star formation history of galaxies	3.6, 6	14	14.0
AL397	Longair, M. Best, P. Eales, S. Rawlings, S. Rottgering, H.	Cambridge Leiden Cardif Oxford Leiden	6C radio galaxies at z=1	3.6, 6 w/GW016	17	3.0
AL418	Lehar, J. Falcke, H. Barvainis, R. Menten, K. Birkinshaw, M. Elvis, M. Blundell, K.	CfA Maryland Haystack MPIfR Bristol CfA Oxford	Variability of radio quiet quasars	3.6	19	4.0
AL423	Lynds, R. O'Neil, E.J.	NOAO NOAO	21-cm line emission of interacting galaxy NGC 6745	20 line	8	8.0
AM553	Mirabel, F. Piro, L. Marti, J. Chaty, S. Rodriguez, L.F. Mereghetti, S. Giommi, P. Heise, J.	Saclay IAS Saclay Saclay UNAM Milano SDC-Rome Utrecht	100 observations and monitoring of galactic hard x-ray sources	6, 20 w/GW016, GV015	16, 23	4.4
AM559	Mundell, C.G. Pedlar, A. Shone, D.L. Cole, G.H. Thean, A. Brinks, E.	Jodrell Bank Jodrell Bank NRAL Jodrell Bank Jodrell Bank Guanajuato	Neutral hydrogen study of interacting Seyferts	20 line w/GP016	28	8.0
AM566	Mirabel, F. Rodriguez, L.F.	Saclay UNAM	Supernova remnant associated with GRS 1915+105?	20, 90 w/BB077	1	6.0
AM570	Morris, D. Thum, C. Claussen, M.	IRAM IRAM NRAO-Socorro	Nature of HD 45677 - another MWC349?	0.7, 1.3, 2, 3.6, 6, 20 w/BD046	26	5.0
AM577	Marcha, M.J. Browne, I.W.A. Dennett-Thorpe, J. Anton, S.	Lisbon Jodrell Bank Lisbon Jodrell Bank	Spectral energy distribution of low luminosity AGN	0.7, 1.3, 2, 3.6, 6	28	3.0
AN075	Naslund, M. Kristen, H. van Moorsel, G. Broeils, A.	Stockholm Stockholm NRAO-Socorro Stockholm	UGC 9977-Evolution of a warped galactic disk	20 line	5	8.0
AO135	Osorio, M. Lizano, S. Kurtz, S. Rodriguez, L. Carral, P.	UNAM UNAM UNAM UNAM Guanajuato	Millimeter continuum search for new galactic hot cores	0.7, 1.3 w/GV015	4, 23	9.5
AP334	Perley, R.A. Carilli, C. Dreher, J.	NRAO-Socorro NRAO-Socorro SETI	VLA Observations of Cygnus A at 43 GHz	0.7	2	12.0
AR378	Rudnick, L. Koralesky, B. Kassim, N. Perley, R.A.	Minnesota Minnesota NRL NRAO-Socorro	Dynamical evolution and current particle acceleration in Cas A	3.6, 6, 20, 90 w/BD046	11	14.5
AR382	Richer, J. Chandler, C.	Cambridge Cambridge	SiO imaging of the jet from the driving source of HH211	0.7 line w/BB077	2	10.0
AS568	Sramek, R. Weiler, K. VanDyk, S. Panagia, N.	NRAO-Socorro NRL UCLA STScI	Properties of radio supernovae	1.3, 2, 3.6, 6, 20 w/GV015	23	3.0

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AS611	Sparke, L. van Moorsel, G. Cox, A. Schwarz, U. Erwin, P.	Wisconsin NRAO-Socorro Iowa Groningen Wisconsin	HI mapping of candidate polar ring galaxy NGC 2655	20 line	13	12.0
AS615	Stringfellow, G. Brown, A.	Colorado Colorado	Monitoring the flux of PMS variable EX Lupi	0.7, 1.3, 2, 3.6, 6 w/GP015	14, 16, 21	10.0
AS616	Shepherd, D. Kurtz, S.	Caltech UNAM	Molecules and continuum in the G192 massive molecular outflow	0.7, 1.3, 3.6 line	15	7.5
AT206	Thilker, D.A. Braun, R. Walterbos, R.	New Mexico State NFRA New Mexico State	HI Shells in M33	20 line	18	6.0
AT210	Thorsett, S.E. Taylor, J.H. Nice, D.J. Briskin, W.F.	Princeton Princeton Princeton Princeton	Timing fast pulsars at the VLA	6, 20, 90 HTRP w/GP016	28, 29	12.0
AU072	Uson, J.M. van Gorkom, J.H. Shambrook, A.	NRAO-CV Columbia Calif.-Santa Cruz	HI Mapping of Abell 2029	20 line	7	6.0
AV230	Verheijen, M.A.W. Tully, R.B.	Groningen Hawaii	Tully-Fisher relationship for galaxies in the Perseus-Pisces Ridge	20 line	3, 5	21.0
AW362	White, S.	Maryland	The stellar activity cycle on active stars	3.6, 6, 20	30	2.0
AW453	Wallace, B. Frail, D. Landecker, T.	DRAO NRAO-Socorro DRAO	P-band imaging of two filled-center supernova remnants	90	1	0.5
AY085	Yun, M.S. Hibbard, J.E.	NRAO-Socorro NRAO-CV	Tidal HI in IR Luminous mergers	20 line	12	12.0
AZ093	vanZee, L.	NRAO-Socorro	Gas distribution and kinematics of interacting dwarf galaxies	20 line	5	7.0
BB077	Bondi, M. Dallacasa, D. Marcha, M. Stanghellini, C.	Bologna Bologna Lisbon Noto	Polarization and structure of flat spectrum radiogalaxies	6 Single antenna VLBI w/pointing, AH616, AM566, test, AR382	1	24.1
BD046	Diamond, P.J. Kemball, A.J. Boboltz, D.A.	Manchester NRAO-Socorro Haystack	Monitoring SiO masers through a cycle of Mira TX Cam	0.7 Single antenna VLBI w/AR378, AF326, AM570	12, 26, 30	13.0
BF032	Faison, M.D. Diamond, P.J. Goss, M. Kemball, A.J. Taylor, G.B.	NRAO-Socorro Manchester NRAO-Socorro NRAO-Socorro NRAO-Socorro	Imaging small scale Galactic HI structure	20 Phased array VLBI w/baselines	4, 6, 11	23.9
BF033	Frail, D. Taylor, G. Beasley, T.	NRAO-Socorro NRAO-Socorro NRAO-Socorro	Radio counterpart of GRB970508	3.6 Phased array VLBI	4	5.5
BL049	Lestrade, J-F. Phillips, R.B. Jones, D.L. Preston, R.A.	Meudon Haystack JPL JPL	A possible Jupiter-mass planet orbiting Sigma 2 CrB	3.6 Phased array VLBI	22	12.0
BW037	Wootten, A. Marvel, K.B. Claussen, M.J. Wilking, B.A.	NRAO-CV Caltech NRAO-Socorro Missouri	Water masers associated with Protostar IRAS 16293-2422	1.3 Single antenna VLBI	24	5.0
GG032	Giovannini, G. Arbizzani, E. Feretti, L. Venturi, T. Cotton, W.D. Lara, L. Taylor, G.B.	Bologna Bologna Bologna Bologna NRAO-CV IAA NRAO-Socorro	FRI radio galaxies 1144+35 and 3C338	3.6 Single antenna VLBI w/test, AC494, AH592, AB845, AC496	26, 27	20.0
GL021	Lonsdale, C. Diamond, P. Smith, H. Lonsdale, C.	Haystack Manchester Calif.-San Diego IPAC	OH megamaser and continuum emission in Arp 220	6, 20 Phased array VLBI	15, 19	23.1

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
GM030	Marcaide, J.M. Ros, E. Guirado, J.C. Perez-Torres, M.A. Alberdi, A. Diamond, P.J. Shapiro, I.I. Preston, R.A. Jones, D. Schilizzi, R.T. Mantovani, F. Trigilio, C. VanDyk, S. Weiler, K.W. Whitney, A.R.	Valencia Valencia Valencia ESA-LAEFF Manchester Cfa JPL JPL JIVE Bologna Noto UCLA NRL Haystack	Monitoring the expansion of SN 1993J at 6cm	6 Phased array VLBI	20	13.6
GP015	Polatidis, A.G. Wilkinson, P.N.	Onsala Jodrell Bank	Monitoring the dramatic changes in the nuclear jet of 3C380	6 Single antenna VLBI AK431, test, AH618, AH606, AS615	20, 21	10.9
GP016	Polatidis, A.G. Xu, W. Wilkinson, P.N. Readhead, A.C.S. Pearson, T.J. Taylor, G.B. Conway, J.E.	Onsala IPAC Jodrell Bank Caltech Caltech NRAO-Socorro Onsala	Second epoch observations of compact symmetric objects from the PR	3.6 Single antenna VLBI w/AC496, AM559, AT210	27	24.6
GV015	Venturi, T. Giovannini, G. Cotton, W. Feretti, L. Lara, L. Marcaide, J.	Bologna Bologna NRAO-CV Bologna IAA Valencia	VLBI observations of three FR II radio galaxies	6 Single antenna VLBI w/test, AS568, AF326, AM553, A013 5	23	12.0
GW016	Walker, C. Ulvestad, J. Muxlow, T. Benson, J.	NRAO-Socorro NRAO-Socorro Jodrell Bank NRAO-Socorro	Structure and motions in 3C120 at 1.6 GHz	20 Single antenna VLBI w/AM553, A1070, AG516, GW016	16	14.7
V347	Gurvits, L.	JIVE	High redshift quasars	6 Phased array VLBI with HALCA	21	14.9
	Staff	NRAO	Baselines, Pointing, Delays Maintenance Move/Operations Software General tests			56.3 57.0 14.4 28.3 44.7



The average downtime was 5.6%.

The array was scheduled for 100.0% (722.0 hours)  
530.5 hours (73.5% of time) for astronomical programs  
106.2 hours (14.7% of time) for tests/calibration  
85.3 hours (11.8% of time) for maintenance  
Total 722.0 hours (100.0%) scheduled.

Array was in configuration CS from September 1 through September 22.

Array was in configuration DnC from September 22 through September 30.

Total Number of astronomical programs was 66.

The following independent proposals shared simultaneous observing time (129.2 hours total simultaneous observing):

Projects	Hours
AB845/BW037	5.1
AB845/GG032	1.8
AB845/MOVE/OP	2.4
AC494/GG032	4.0
AC496/GG032	8.3
AC496/GP016	15.7
ADHOC/AP334	1.9
AF326/BD046	0.3
AF326/BD046	1.3
AF326/GV015	2.0
AG516/GW016	8.0
AG525/GG032	3.2
AH592/GG032	2.0
AH603/MOVE/OP	2.5
AH606/GP015	2.6
AH606/GP015	2.4
AH616/BB077	11.0
AH618/GP015	2.5
A1070/GW016	3.5
AK431/GP015	1.9
AL397/GW016	2.6
AM553/GV015	1.9
AM553/GW016	0.6
AM559/GP016	8.0
AM566/BB077	6.0
AM570/BD046	4.7
AO135/GV015	3.0
AR378/BD046	5.7
AR382/BB077	2.5
AR382/BB077	0.1

AS568/GV015	3.0
POINTING/BB077	1.4
TEST/BB077	3.0
TEST/GG032	0.8
TEST/GP015	1.5
TEST/GV015	2.0

10/17/97

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AB825	Barnes, D. Webster, R. Schmidt, R.	Melbourne Melbourne Potsdam	Lens 2237+0305	20 line w/BB078	19, 21, 22	24.0
AB836	Bourke, T. Myers, P.	CfA CfA	OH Zeeman observations of S88B	20 line	15	12.4
AB837	Bosma, A. Kristen, H. Teuben, P. Regan, M.	Marseille Stockholm Maryland Maryland	HI in the barred spiral NGC 1530	20 line	15	10.0
AC484	Clements, D.L. Mundell, C. Baker, A.C. Lamb, S.	Paris Univ. Jodrell Bank Service d'Astrophys Illinois	HI in ultraluminous IRAS galaxies	20 line	24,25	13.1
AD380	Dubner, G. Cillis, A. Holdaway, M.A. Kassim, N. Mirabel, F.	IAFE IAFE NRAO-Tucson NRL Saclay	Radio continuum observations in the direction of W50	90	18	4.0
AD408	Dubner, G.	IAFE	Study of centrally influenced supernova remnants (SNRs)	20, 90	16	4.5
ADHOC	Hjellming, R.A.	NRAO-Socorro	Adhoc Proposal 1		1	1.1
ADHOC	van Zee, L.	NRAO-Socorro	Adhoc Proposal 2		12	0.9
ADHOC	Frail, D.A.	NRAO-Socorro	Adhoc Proposal 3		16	1.4
ADHOC	Blundell, K.	Oxford	Adhoc Proposal 4		20	0.9
ADHOC	Sridharan, T.	CfA	Adhoc Proposal 5		20	0.5
AE111	Edge, A.C. Rottgering, H. van Harlem, M. Bremer, M. Rengelink, R.	Cambridge Leiden NFRA IAP Leiden	Radio sources in distant x-ray selected clusters	3.6, 20 w/BW034	2, 22	8.1
AE112	Estalella, R. Anglada, G. Beltran, M. Rodriguez, L.F. Torrelles, J.M.	Barcelona IAA Barcelona UNAM IAA	Spectral index of exciting sources of selected bipolar outflows	6	14	8.0
AF318	Florkowski, D.	USNO	Monitoring the radio emission from the Wolf-Rayet Binary HD 192641	0.7, 2, 6, 20	13	1.5
AF326	Frail, D.A. Kulkarni, S.R.	NRAO-Socorro Caltech	Search for radio counterparts of gamma ray bursters with BeppoSAX	20	5, 6, 10, 14, 16, 18, 22, 28, 31 w/test, BD046	27.5
AF327	Falcke, H. Barvainis, R. Lehar, J. Menten, K. Birkinshaw, M. Elvis, M. Blundell, K.	Maryland Haystack CfA MPIfr Bristol CfA Oxford	Radio-Spectra of radio quiet quasars	3.6, 20	29	3.0
AG518	Garcia-Sanchez, J. Paredes, J.M. Preston, R.A. Jones, D.L.	Barcelona Barcelona JPL JPL	Multi-frequency observations of selected RS CVn Binaries	2, 3.6, 6, 20	23, 31	7.5
AH592	Hjellming, R.M. Rupen, M.P.	NRAO-Socorro NRAO-Socorro	Monitoring galactic black hole x-ray transients	2, 3.6, 6, 20 w/BB078	3, 7, 11, 18, 27, 30	8.6
AH604	Haarsma, D.B. Hewitt, J.N. Lehar, J. Burke, B.F.	MIT MIT CfA MIT	Monitoring gravitational lens 0957+561	3.6, 6	5	2.0
AH610	Haynes, M.P. Kornreich, D.A. vanZee, L. Lovell, R.V.E.	Cornell Cornell NRAO-Socorro Cornell	HI Mapping of optically asymmetric disk galaxies	20 line	11, 23, 24	24.0
AH612	Ho, L.C. Barthel, P.D. Filho, M.E.	CfA Kapteyn Lisbon	Searching for central engine in LINERS	3.6 w/BB078	21, 25	8.5
AH632	Hewitt, J. Chavushyan, V. Vlasyuk, V.	MIT	Optical lens 1520+530	3.6, 20	28	1.5
AI069	Ishida, C.M. Hibbard, J.E.	Hawaii NRAO-CV	HI Observations of isolated, non-merging luminous infrared galaxies	20 line	4, 11	12.1

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AJ259	Jura, M. Turner, J. Van Dyk, S.	UCLA UCLA UCLA	Dust in the Egg nebula	1.3, 2	11	4.0
AK438	Keohane, J.W. Rudnick, L. Koralesky, B. Petre, R. Gotthelf, E. Allen, G.E.	Minnesota Minnesota Minnesota NASA/GSFC NASA/GSFC NASA/GSFC	Enhanced shock acceleration in the supernova remnant IC 443	6, 20	26	4.0
AK442	Kulkarni, S.R. Danner, R. Frail, D.A. Gotthelf, E.	Caltech Caltech NRAO-Socorro NASA-GSFC	Mysterious nebula in the globular cluster M28	3.6	4	4.0
AL401	Lacy, M. Ridgway, S. Rawlings, S. King, L.	Oxford Oxford Oxford Oxford	Rotation measures of $z \sim 1$ radio sources	3.6, 6	26	9.0
AL418	Lehar, J. Falcke, H. Barvainis, R. Menten, K. Birkinshaw, M. Elvis, M. Blundell, K.	Cfa Maryland Haystack MPIfR Bristol Cfa Oxford	Variability of radio quiet quasars	3.6 w/baselines	7, 21	8.5
AL419	Leahy, J.P. Bridle, A.H. Strom, R.G.	Jodrell Bank NRAO-CV NFRA	Five large 3CR Radio galaxies	20	26, 30	15.5
AM559	Mundell, C.G. Pedlar, A. Shone, D.L. Cole, G.H. Thean, A. Brinks, E.	Jodrell Bank Jodrell Bank NRAL Jodrell Bank Jodrell Bank Guanajuato	Neutral hydrogen study of interacting Seyferts	20 line w/BD046, BW037	1, 3	20.0
AM560	Marti, J. Mirabel, I.F. Rodriguez, L.F. Smith, I. Liang, E.	Saclay Saclay UNAM Rice Rice	Coordinated observations of black hole candidate GRS 1758-258	3.6, 6 w/BW034, BW037	3, 5, 7, 10, 13, 14, 17, 19, 23	17.5
AM561	McIntyre, V. Ostlin, G.	Wollongong Uppsala	Structure of ISM in the quiescent dwarf galaxy Sextans B	20 line w/BD046, BW034	2	12.0
AO132	O'Dea, C. Elvis, M.	STScI Cfa	High redshift quasars with large X-ray absorbing columns	0.7, 1.3, 2, 3.6, 6, 20, 90	8	3.5
AP331	Pooley, G.G. Hardcastle, M.J. Riley, J.M. Alexander, P.	MRAO Bristol MRAO MRAO	Constraining the luminosity function of jets in FR II radio galaxies	3.6	29	15.0
AP352	Pickering, T.E. Quillen, A. van Gorkom, J. Impey, C.D.	Arizona Arizona Columbia Arizona	HI Imaging of giant low surface brightness galaxies	20 line	9, 10	16.5
AR382	Richer, J. Chandler, C.	Cambridge Cambridge	SiO imaging of the jet from the driving source of HH211	0.7 line	30	10.0
AR383	Richards, E. Windhorst, R. Kellermann, K. Partridge, B. Fomalont, E.	NRAO-CV Arizona State NRAO-CV Haverford NRAO-CV	Spectral energy distributions of microJansky sources	3.6 w/BW037	8, 9, 10, 16, 17, 19, 22, 23	72.2
AR384	Roberts, M.S. Haynes, M.P. Hogg, D.E.	NRAO-CV Cornell NRAO-CV	Study of the asymmetry in apparently isolated galaxies	20 line	28	3.5
AS568	Sramek, R. Weiler, K. VanDyk, S. Panagia, N.	NRAO-Socorro NRL UCLA STScI	Properties of radio supernovae	1.3, 2, 3.6, 6, 20	14	3.0
AS599	Stockton, A. Ridgway, S.E.	Hawaii Oxford	Radio optical alignment in $z \sim 1$ quasars	3.6, 6 w/BD046	16	1.6
AS606	Seaquist, E.R. Frail, D.A.	Toronto NRAO-Socorro	Third epoch observations of the Nova remnant GK Per	6	1	5.0

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AS60B	Shang, Z. Burstein, D. Brinks, E. Zheng, Z. Su, H. Chen, J-S.	Texas Arizona State Guanajuato Beijing Obs. Purple Mountain Beijing Obs.	Ring structure around NGC 5907	20 line	6	6.0
AS612	Sridharan, T.K. Zhao, J.-H. Hunter, T. Ramesh, B.	CfA CfA CfA Nobeyama	Isolated high mass protostellar candidates	0.7, 1.3, 3.6 line	9	5.5
AS616	Shepherd, D. Kurtz, S.	Caltech UNAM	Molecules and continuum in the G192 massive molecular outflow	0.7, 1.3, 3.6 line w/BC072	5, 6	10.5
AT204	Tingay, S.J. Preston, R.A. Meier, D.L. Jones, D.L. Murphy, D.W. Jauncey, D.L. Fujisawa, K. Hirabayashi, H. Edwards, P.G.	JPL JPL JPL JPL JPL ATNF ISAS ISAS ISAS	Monitoring of nuclear flux density of Centaurus A	1.3, 3.6	26	1.0
AV230	Verheijen, M.A.W. Tully, R.B.	Groningen Hawaii	Tully-Fisher relationship for galaxies in the Perseus-Pisces Ridge	20 line w/BD046	8,14,27,28	34.0
AW453	Wallace, B. Frail, D. Landecker, T.	DRAO NRAO-Socorro DRAO	P-band imaging of two filled-center supernova remnants	90	31	6.5
AW465	Wyrowski, F. Walmsley, C.M. Schilke, P.	Cologne Arcetri Cologne	Revealing the small structure of Orion Nebula PDR	3.6 line	18, 19, 21	27.0
AW466	White, S. Lee, J. Kundu, M. Thomas, R. Brosius, J.	Maryland Maryland Maryland NASA/GSFC NASA/GSFC	Measuring the coronal abundance of iron relative to hydrogen	3.6, 6, 20 w/BW034	3	10.0
AY086	Yun, M.S. Verdes-Montenegro, L Huchtmeier, W.K. del Olmo, A. Perea, J.D.	NRAO-Socorro IAA MPIfr IAA IAA	HI Clouds in the densest compact groups	20 line	1	12.0
AZ090	van Zee, L. Salzer, J.J. Skillman, E.D.	NRAO-Socorro Wesleyan Minnesota	Do star formation thresholds depend on metallicity?	20 line	14	6.0
AZ093	vanZee, L.	NRAO-Socorro	Gas distribution and kinematics of interacting dwarf galaxies	20 line w/AM466, test, AH592, BB078, AM559, AH612, BB078, AB825	6,14	7.0
AZ094	vanZee, L.	NRAO-Socorro	HI distribution and gas kinematics of UGC 521 and UGC 3672	20 line	17	12.0
BB078	Bradshaw, C. Fomalont, E.B. Goldzahler, B.	George Mason NRAO-CV George Mason	Sco x-1	6, 20 single antenna VLBI (+2h array)	3, 21	12.0
BC072	Cotton, W.D. Fanti, C. Fanti, R. Dallacasa, D. Foley, A.R. Schilizzi, R.T. Spencer, R.E.	NRAO-CV Bologna Bologna Bologna NFRA JIVE Jodrell Bank	Mapping Faraday rotation in the core of 3C138	6 Single antenna VLBI (+1.5h array) w/test, AS616, AZ093	8, 6	12.0
BD046	Diamond, P.J. Kemball, A.J. Boboltz, D.A.	Manchester NRAO-Socorro Haystack	Monitoring SiO masers through a cycle of Mira TX Cam	0.7 single antenna VLBI (+1.5h array) w/AM559, AM561, BD046, AB836, AS599, AF326, AR383, AV230	2, 16, 28	19.7
BG071	Goodman, A.A. Greenhill, L.J.	Harvard CfA	Zooming in on pre-main sequence star forming regions	3.6 Phased array VLBI	31	7.0
BM076	Molnar, L. Mutel, R. Spangler, S.	Iowa Iowa Iowa	Survey of interstellar scattering towards Cygnus X	1.3, 2 Phased array VLBI	24, 25	27.9

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
BM080	Moellenbrock, G. Roberts, D.H. Wardle, J.F.C.	ISAS Brandeis Brandeis	Polarization structure monitoring of gamma ray blazars	0.7, 1.3, 2, 3.6	9	3.0
BP035	Patnaik, A.R. Porcas, R.W. Kemball, A. Garrett, M.A.	MPIFR MPIFR NRAO-Socorro JIVE	VLBA Polarimetry of gravitational lenses	2, 3.6	5	2.0
BW034	Wilkinson, P. Marlow, D. Browne, I. Jackson, N. Readhead, A. Fassnacht, C. deBruyn, G. Myers, S.	Jodrell Bank Jodrell Bank Jodrell Bank Jodrell Bank Caltech Caltech NFRA Pennsylvania	VLBA observations of JVAS/CLASS gravitational lens candidates	6 Single antenna VLBI w/AM561, AE111, AM560, test, BW034	2	24.1
BW037	Wootten, A. Marvel, K.B. Claussen, M.J. Wilking, B.A.	NRAO-CV Caltech NRAO-Socorro Missouri	Water masers associated with Protostar IRAS 16293-2422	1.3 Single antenna VLBI w/AR383, AM560	23	5.0
	Staff	NRAO	Baselines, Pointing, Delays Maintenance Software General tests			49.9 44.8 26.2 40.0

The average downtime was 3.5%.

The array was scheduled for 100.0% (746.1 hours)  
593.6 hours (79.6% of time) for astronomical programs  
81.5 hours (10.9% of time) for tests/calibration  
70.9 hours (9.5% of time) for maintenance  
Total 746.1 hours (100.0%) scheduled.

Array was in configuration C from August 1 through August 31.

Total Number of astronomical programs was 58.

The following independent proposals shared simultaneous observing time (77.3 hours total simultaneous observing):

Projects	Hours
AB825/BB078	0.4
AB836/BD046	0.4
AE111/BW034	4.0
AF326/BD046	1.0
AF326/BD046	1.8
AH592/BB078	1.5
AH612/BB078	4.8
AL418/BASELINES	4.0
AM559/BB078	1.2
AM559/BD046	2.7
AM560/BW034	2.0
AM560/BW037	1.0
AM561/BD046	3.6
AM561/BW034	6.4
AR383/BD046	1.5
AR383/BW037	4.0
AS599/BD046	1.6
AS616/BC072	6.5
AV230/BD046	4.2
AW466/BB078	0.4
AW466/BW034	6.2
AZ093/BC072	1.9
BB078/BB078	1.0
BB078/BB078	1.0
BD046/BD046	1.5
TEST/AF326	3.0
TEST/BB078	2.0
TEST/BC072	2.2
TEST/BW034	5.5

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AA209	Aschwanden, M.J. Bastian, T.S. Brosium, J.W. Holman, G.D. Thompson, B. Jordan, S.D.	Maryland NRAO-Socorro NASA-GSFC NASA-GSFC NASA-GSFC	Multi-loop models of active regions using SOHO, Yohkoh, and VLA	2, 3.6, 6, 20 W/BD046	3, 4, 5, 6, 7	34.1
AB805	Biretta, J. Owen, F. Zhou, F.	STScI NRAO-Socorro STScI	VLA monitoring of the M87 jet	0.7, 1.3	22	2.0
AB829	Beck, R. Shoutenkov, V. Shukurov, A. Sokoloff, D.	MPIFR Lebedev Newcastle Moscow U.	Polarization in barred galaxies	20	2	2.0
AB833	deBlok, E. Verheyen, M.	Kapteyn Kapteyn	HI in low surface brightness galaxy UGC 128	20 line W/BD046	18	10.5
AC489	Cotton, B. Bridle, A. Laing, R. Giovannini, G.	NRAO-CV NRAO-CV RGO Bologna	Kinematics of jet deceleration: NGC 315	6 W/BV024	12	6.0
ADHOC	Hjellming, R.	NRAO-Socorro	Adhoc proposal		5	0.4
ADHOC	Perley, R.A.	NRAO-Socorro	Adhoc proposal		6	1.0
ADHOC	Blundell, K.	Oxford	Adhoc proposal		16	1.0
AE110	Edge, A.C. Allen, S.W. Crawford, C.S. Fabian, A.C.	Cambridge Cambridge Cambridge Cambridge	Radio properties of central galaxies in x-ray selected clusters	6	5	3.5
AF326	Frail, D.A. Kulkarni, S.R.	NRAO-Socorro Caltech	Search for radio counterparts of gamma ray bursters with BeppoSAX	20 W/BD045	2, 4, 7, 11, 14, 15, 18, 22, 28, 30	19.0
AF327	Falcke, H. Barvainis, R. Lehar, J. Menten, K. Birkinshaw, M. Elvis, M. Blundell, K.	Maryland Haystack CfA MPIFR Bristol CfA Oxford	Radio-Spectra of radio quiet quasars	3.6, 20 W/MOVE/OP	22, 29	10.0
AG510	Gunn, A.G. Spencer, R.E. Migenes, V. Umaña, G. Trigilio, C. Budding, E.	Jodrell Bank Jodrell Bank NAO Noto Noto Carter Obs.	Microwave survey of Northern algol systems	6	8	4.0
AG512	Golla, G. Lutticke, R. Dettmar, R.-J.	Bochum Bochum Bochum	HI velocity field of box/peanut bulges: NGC 1055	20	26	9.0
AH592	Hjellming, R.M. Rupen, M.P.	NRAO-Socorro NRAO-Socorro	Monitoring galactic black hole x-ray transients	2, 3.6, 6, 20	3, 9, 16, 23, 30	9.3
AH603	Harper, G. Brown, A. Bennett, P. Hummel, C. Walder, R.	Colorado Colorado Colorado USRA ETH	Radio modulation of Zeta Aur's orbitally varying HII region	3.6, 6	22	4.0
AH604	Haarsma, D.B. Hewitt, J.N. Lehar, J. Burke, B.F.	MIT MIT CfA MIT	Monitoring gravitational lens 0957+561	3.6, 6 W/BD045	11	2.0
AH606	Huchtmeier, W.K. Hopp, U. Popescu, C.C.	MPIFR Muenchen MPIA	HI Observations of dwarf galaxies in nearby voids	20 line	7, 17	7.0
AH614	Herrnstein, J.R. Greenhill, L.J. Moran, J.M. Trotter, A.S. Diamond, P.J. Braatz, J.A.	NRAO-Socorro CfA CfA CfA NRAO-Socorro Maryland	VLA Polarimetry of the sub-parsec Jet in NGC 4258	1.3	29	12.0
AH616	Habbal, S.R. Gonzalez, R. Wang, H.	CfA NAIC NJIT	Solar macrospicules and jetlike events	3.6, 6 W/BV024	12, 13, 14	24.0
A1069	Ishida, C.M. Hibbard, J.E.	Hawaii Hawaii	HI Observations of isolated, non-merging luminous infrared galaxies	20 line	31	6.2
AK397	Frail, D.A. Kulkarni, S.R.	NRAO-Socorro Caltech	Search for radio counterparts of Gamma Ray Bursters with high energy transient experiment (HETE)	20	18	0.7



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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AL416	Lebron, M. Rodriguez, L.F. Lizano, S.	UNAM UNAM UNAM	Neutral flows from compact HII regions: 21cm and C166 observations	20 line	9	13.0
AL417	Lim, J. Ho, P.T.P.	Academia Sinica CfA	HI distribution around luminous low-redshift quasars:	20 line	18, 22, 23	25.0
AL420	Lara, L. Cotton, W.D. Feretti, L. Giovannini, G. Marcaide, J.M. Venturi, T.	IAA NRAO-CV Bologna Bologna Valencia Bologna	New sample of large angular size radio sources	6, 20	27	4.5
AL421	Lebron, M. Gomez, Y. Rodriguez, L.F. Lizano, S. Escalante, V. Garay, G.	UNAM UNAM UNAM UNAM UNAM Chile	Partially ionized and photodissociated zone around HII region GGD12-15	6 line	24	5.0
AM544	Lewin, W.H.G. Moore, C.B. Rutledge, R.R. van Paradijs, J.	MIT MIT MIT Amsterdam	Parallel x-ray and VLA observations of the Rapid Burster	20,3.6	23	1.2
AM556	McGaugh, S. Pildis, R. deBlok, E.	DTM CfA Kapteyn	Kinematics of extremely gas rich low surface brightness dwarf galaxies	20 line W/BD046	19	16.0
AM563	McMahon, R.G. Miley, G. Ciliegi, P. Rowan-Robinson, M.	Cambridge Leiden Cambridge Imperial	VLA Survey of ISO Survey regions	20 W/BW037	21, 25	24.0
AM564	Mirabel, F. Rodriguez, L.F.	Saclay UNAM	Supernova-molecular cloud interaction near GRS 1915+105?	20 line	16	5.0
AM565	Mirabel, F. Rodriguez, L.F.	Saclay UNAM	Flux variations in the lobes of 1E1740.7-2942	6 W/MOVE/OP	24, 27	12.0
AO132	O'Dea, C. Elvis, M.	STScI CfA	High redshift quasars with large X-ray absorbing columns	0.7, 1.3, 2, 3.6, 6, 20, 90	26	3.5
AR377	Rudnick, L. Koralesky, B. Dickel, J.	Minnesota Minnesota Illinois	Asymmetric expansion of the Kepler SNR shells	6, 20	28	6.0
AR384	Roberts, M.S. Haynes, M.P. Hogg, D.E.	NRAO-CV Cornell NRAO-CV	Study of the asymmetry in apparently isolated galaxies	20 line	2, 31	13.6
AT204	Tingay, S.J. Preston, R.A. Meier, D.L. Jones, D.L. Murphy, D.W. Jauncey, D.L. Fujisawa, K. Hirabayashi, H. Edwards, P.G.	JPL JPL JPL JPL ATNF ISAS ISAS ISAS	Monitoring of nuclear flux density of Centaurus A	1.3, 3.6	24	1.5
AT205	Tsarevsky, G.S. Stee, O.B. Norris, R.P. Roy, A.L.	ATNF ATNF ATNF NRAO-Socorro	Survey of high redshift radio quiet and radio intermediate quasars	20	20	36.0
AU072	Uson, J.M. van Gorkom, J.H. Shambrook, A.	NRAO-CV Columbia Calif.-Santa Cruz	HI Mapping of Abell 2029	20 line	1,3-7,10-12, 14	94.1
AV230	Verheijen, M.A.W. Tully, R.B.	Groningen Hawaii	Tully-Fisher relationship for galaxies in the Perseus-Pisces Ridge	20 line	25, 28, 29	29.9
AW464	Wiesemeyer, H. Gusten, R.	MPifr MPifr	Radio continuum search towards low-luminosity class 0 sources	3.6	30	5.9
AW466	White, S. Lee, J. Kundu, M. Thomas, R. Brosius, J.	Maryland Maryland Maryland NASA-GSFC NASA-GSFC	Measuring the coronal abundance of Iron relative to hydrogen	3.6, 6, 20	27	10.0
AW467	Wilcots, E.M. Pisano, D.J.	Wisconsin Wisconsin	Gas dynamics in the NGC 672/IC 1727 system	20 line	1	8.0
AZ095	Zhao, J-H. Goss, M. Ulvestad, J.	CfA NRAO-Socorro NRAO-Socorro	7mm recombination line emission in starburst galaxy NGC 253	0.7 line	15, 17	12.0
BD037	Denn, G. Mutel, R.	Iowa Iowa	Polarized VLB jet of BL Lac	1.3, 2, 6	27	2.2

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
BD045	Dhawan, V. Kellermann, K.I. Romney, J.D.	NRAO-Socorro NRAO-CV NRAO-Socorro	Monitoring the accelerating bent jet in 3C84 at 7mm	0.7 W/AF326, Standard Field, Test, AH604	11	14.2
BD046	Diamond, P.J. Kemball, A.J. Boboltz, D.A.	NRAO-Socorro NRAO-Socorro NRAO-Socorro	Monitoring SiO masers through a cycle of Mira TX Cam	0.7 Single antenna VLBI W/ADHOC, AA209, AB833, AM556	6,19,24	13.8
BG062	Greenhill, L.J. Herrnstein, J.R. Trotter, A.S. Moran, J.M. DePree, C. Cecil, G.	CfA NRAO-Socorro CfA CfA Agnes Scott North Carolina	Jet structure in NGC 4258	20 Phased array VLBI	15	12.1
BG070	Gallimore, J.F. Mundell, C. Pedlar, A. Baum, S. O'Dea, C.	MPE Jodrell Bank Jodrell Bank STSci STSci	Imaging the ionized Torus in NGC 4151	3.6 Phased array VLBI	18	12.0
BL038	Lestrade, J.F. Phillips, R.B. Jones, D.L. Preston, R.A.	Meudon Haystack JPL JPL	Search for extra solar planets by VLBI astrometry	3.6 Phased array VLBI	3	6.0
BL049	Lestrade, J-F. Phillips, R.B. Jones, D.L. Preston, R.A.	Meudon Haystack JPL JPL	A possible Jupiter-mass planet orbiting Sigma 2 CrB	3.6 Phased array VLBI	26	11.8
BV024	Vermeulen, R.C. van Langevelde, H.-J Kellermann, K.I. Zensus, J.A. Cohen, M.H.	NFRA JIVE NRAO-CV NRAO-CV Caltech	Shroud around the twin jets of NGC 1052	0.7, 1.3, 2 Single antenna VLBI W/AC489, AH616	12	8.6
BW037	Claussen, M. Marvel, K.B. Wilking, B.A. Wootten, A.	NRAO-Socorro Caltech Missouri NRAO-CV	Water masers associated with the protostar IRAS 16293-2422	1.3	17,25	5.5
V025	Kemball, A.	NRAO-Socorro	SVLBI Polarimetry with VSOP	6	13	8.8
VT809	VSOG	ISAS	HALCA In-Orbit Checkout	20	5	2.6
VT812	VSOG	ISAS	HALCA In-Orbit Checkout	1.3	17	6.8
	Staff	NRAO	Baselines, Pointing, Delays Maintenance Move/Ops Software Standard field observation Summer student observation General tests		11 10, 12	47.4 49.6 12.5 35.0 9.0 4.5 39.1

The average downtime was 4.5%.

The array was scheduled for 100.0% (746.1 hours)  
561.0 hours (75.2% of time) for astronomical programs  
100.5 hours (13.5% of time) for tests/calibration  
84.6 hours (11.3% of time) for maintenance  
Total 746.1 hours (100.0%) scheduled.

Array was in configuration C from July 1 through July 22.

Array was in configuration CS from July 22 through July 31 .

Total Number of astronomical programs was 51.

The following independent proposals shared simultaneous observing time (52.7 hours total simultaneous observing):

Projects	Hours
AA209/BD046	5.3
AB833/BD046	2.8
AC489/BV024	4.9
ADHOC/BD046	1.0
AF326/BD045	2.0
AF327/MOVE/OP	4.5
AH604/BD045	0.7
AH616/BV024	3.7
AM556/BD046	3.2
AM563/BW037	5.0
AM565/MOVE/OP	5.0
MOVE/OP/VT812	3.0
STANDARD FIELD/ BD045	9.0
TEST/BD045	2.5

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AB826	Baker, J.C. Hunstead, R.W. Dennett-Thorpe, J. Saunders, R.D.E.	MRAO Sydney MRAO MRAO	A low-redshift quasar with an optical arc	6	20	5.5
AB827	Brogan, C.L. Troland, T.H. Roberts, D.A. Crutcher, R.M.	Kentucky Kentucky Illinois Illinois	High angular resolution HI Zeeman observations toward M17	20 line	22	10.0
AB828	Brogan, C.L. Troland, T.H. Roberts, D.A. Crutcher, R.M.	Kentucky Kentucky Illinois Illinois	OH Zeeman observations toward M17	20 line	4	3.5
AB829	Beck, R. Shoutenkov, V. Shukurov, A. Sokoloff, D.	MPIfR Lebedev Newcastle Moscow U.	Polarization in barred galaxies	20	12	2.0
AB835	Brown, A. Harper, G.	Colorado Colorado	Mass loss from evolved K and M stars: the K supergiant Lambda Vel	3.6	6	3.0
AC486	Carilli, C. Menten, K. Reid, M. Rupen, M.	NRAO-Socorro MPIfR Cfa NRAO-Socorro	Deuterium abundance in a molecular cloud at z=0.9	0.7 line	20, 21	17.0
AC490	Cotton, W.D. Bridle, A.H. Palma, C.	NRAO-CV NRAO-CV Virginia	Search for the jet(s) in the giant radio galaxy 2146+82	20	16	12.0
AD401	Dahlem, M.	ESTEC	High level star formation in NGC 4666	20 line	23, 25	9.0
ADHOC	Frail, D.A.	NRAO-Socorro	Adhoc Proposal		12, 19, 24	6.7
AE111	Edge, A.C. Bremer, M. Rengelink, R. Rottgering, H. van Haarlem, M.	Cambridge IAP, Paris Leiden Leiden Dwingeloo	Radio sources in distant x-ray selected clusters	20, 3.5	25, 27	8.4
AF321	Frail, D.A. Goss, M.	NRAO-Socorro NRAO-Socorro	Identifying new pulsar wind nebulae	3.6, 6, 20	12, 14, 15, 17	13.5
AF326	Frail, D.A. Kulkarni, S.R.	NRAO-Socorro Caltech	Search for radio counterparts of gamma ray bursters with BeppoSAX	20 w/BD046	2, 3, 5, 7, 9, 12, 14, 17, 20, 22, 25, 28	20.9
AG510	Gunn, A.G. Spencer, R.E. Migenes, V. Umana, G. Trigilio, C. Budding, E.	Jodrell Bank Jodrell Bank NAO Noto Noto Carter Obs.	Microwave survey of Northern algol systems	6	1	1.0
AG516	Gao, Y. Lo, K.Y. Gruendl, R. Hwang, C.	Illinois Illinois Illinois Academia Sinica	Luminous IR galaxies in a merger sequence	20	21	1.0
AG518	Garcia-Sanchez, J. Paredes, J.M. Preston, R.A. Jones, D.L.	Barcelona Barcelona JPL JPL	Multi-frequency observations of selected RS CVn Binaries	2, 3.6, 6, 20	6	3.0
AH582	Hibbard, J.E. Rich, R.M. Barnes, J.E. van der Hulst, T.	Hawaii Columbia Hawaii Groningen	Dwarf formation in the tidal tail of "the antennae"	20 line w/GP015	9	8.7
AH592	Hjellming, R.M. Rupen, M.P.	NRAO-Socorro NRAO-Socorro	Monitoring galactic black hole x-ray transients	2, 3.6, 6, 20 w/GP015	3, 9, 18, 23, 29	8.7
AH604	Haarsma, D.B. Hewitt, J.N. Lehar, J. Burke, B.F.	MIT MIT Cfa MIT	Monitoring gravitational lens 0957+561	3.6, 6 w/BD046	22	2.0
AH611	Higdon, J.L.	ATNF	Radio continuum study of the Cartwheel ring galaxy	20 w/BD046	7	6.5
AH615	Ho, P.T.P. Rengarajan, T.N.	Cfa Tata	Search for synchrotron radio emission from the Far-IR Source W33A	6, 20	14	3.0
AH617	Ho, P.T.P. Rengarajan, T.N. Jackson, J.M.	Cfa Tata Boston	Ionized outflow from deeply embedded luminous infrared sources	0.7, 1.3	13	5.0
AH619	Hofner, P. Baan, W. Takano, S.	Arecibo Arecibo Cologne	The H2O masers in NGC 253	1.3 line	9	4.5

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AK397	Kulkarni, S.R. Frail, D.A.	Caltech NRAO-Socorro	Search for radio counterparts of gamma ray bursters with high energy transient experiment	20	26	0.8
AK425	Kollgaard, R.I. Ghisellini, G. Maraschi, L. Pesce, J. Sambruna, R. Urry, C.M.	Fermilab Torino Genova STScI STScI STScI	Multi-frequency monitoring of blazars	1.3, 2, 3.6, 6, 20	2	1.0
AK431	Kovo, O. Turner, J. Beck, S.C.	Tel Aviv UCLA Tel Aviv	Multi-frequency continuum maps of Wolf-Rayet dwarf galaxies	2, 3.6	17	5.0
AK437	Karovska, M. Mattei, J. Carilli, C.	CfA AAVSO NRAO-Socorro	Possible jet formation in the CH Cyg symbiotic system	2, 3.6, 20	3	3.0
AK440	Kurtz, S. Carral, P. Rodriguez, L.F. Hofner, P. DePree, C.	UNAM Guanajuato UNAM Arecibo Agnes Scott	Exciting sources of water masers near cometary HII regions	0.7, 6	8	1.5
AK441	Kundu, M.R. Nitta, N. White, S.M.	Maryland Lockheed Maryland	Coronal x-ray jets	6, 20, 90 w/BB075	27, 29, 30	30.5
AK442	Kulkarni, S.R. Danner, R. Frail, D.A. Gotthelf, E.	Caltech Caltech NRAO-Socorro NASA-GSFC	Mysterious nebula in the globular cluster M28	6	9	4.0
AK444	Gopal Krishna Bhatnagar, S. Wisotzki, L.	TIFR-Pune TIFR-Pune Hamburg Obs.	Search for radio continuum from QSOs in the Hamburg-ESO-Survey	6	12, 14	17.0
AL408	Lovell, J.E.J. Reynolds, J.E. Jauncey, D.L.	Tasmania ATNF ATNF	Locating the z=0.19 lensing galaxy in PKS 1830-211	1.3	12	3.0
AL418	Lehar, J. Falcke, H. Barvainis, R. Menten, K. Birkinshaw, M. Elvis, M. Blundell, K.	CfA Maryland Haystack MPIfR Bristol CfA Oxford	Variability of radio quiet quasars	3.6	29	4.0
AL424	Lestrade, J.	Meudon	HR 5968 - G star with planet	3.6	5	1.5
AM558	Marti, J. Mirabel, F. Rodriguez, L.F. Chaty, S.	Saclay Saclay UNAM Saclay	New radio counterparts of GRANAT sources in galactic bulge	3.6, 6	24	7.6
AM562	Marlow, D.R. Browne, I.W.A. Helbig, P. Wilkinson, P.N.	Jodrell Bank Jodrell Bank Jodrell Bank Jodrell Bank	Search for gravitational lenses with component separation 10" to 60"	2, 20	18, 20, 21	5.5
AN074	Neff, S.G. Ulvestad, J.S. Smith, D.A. Fanelli, M.N.	NASA-GSFC NRAO-Socorro NASA-GSFC NASA-GSFC	HII regions and SNR in NGC 4038/9 ("the Antennae")	3.6, 6	16	3.0
AR381	Rodriguez, L.F. Mirabel, F.	UNAM Saclay	Multiband observations of GRS 1915+105	2, 3.6, 6	3, 5, 9	10.5
AR383	Richards, E. Windhorst, R. Kellermann, K. Partridge, B. Fomalont, E.	NRAO-CV Arizona State NRAO-CV Haverford NRAO-CV	Spectral energy distributions of micro Jansky sources	3.6 w/BDO46	7, 8, 11, 13, 15, 23	65.9
AS568	Sramek, R.A. Panagia, N. van Dyk, S. Weiler, K.	NRAO-Socorro STScI Calif., Berkeley NRL	Properties of Radio Supernovae	90, 20, 6, 3, 5, 2, 1.3	18, 22	6.0
AS603	Schimnovich, D. van Gorkom, J.H. vanderHulst, J.M. Wilkinson, A. Oosterloo, T.	Columbia Columbia Kepteyn Manchester ATNF	HI study of the shell galaxy NGC 1210	20 line w/BDO46	21, 22	16.0
AS604	Spangler, S.R. Mancuso, S.	Iowa Iowa	Faraday rotation in the solar corona	20	23	5.0
AS615	Stringfellow, G. Brown, A.	Colorado Colorado	Monitoring the flux of PMS variable EX Lupi	1.3, 3.6	2	4.0

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AU072	Uson, J.M. van Gorkom, J.H.	NRAO-CV Columbia	HI Mapping of Abell 2029	20 line w/BB075	29, 30	16.0
AW362	White, S.	Maryland	The stellar activity cycle on active stars	3.6, 6, 20	12	1.5
AW469	Willson, R.F. Lang, K.R. Schuhle, U.	Tufts Tufts MPIA	VLA-SOHO observations of global magnetic structures on the Sun	6, 20, 90	3, 5, 16, 21	17.0
AY084	Yusef-Zadeh, F.	Northwestern	Continuum observations of G359.1-0.5 and the Snake	6, 20	19	8.5
AZ090	van Zee, L. Salzer, J.J. Skillman, E.D.	NRAO-Socorro Wesleyan Minnesota	Do star formation thresholds depend on metallicity?	20 line	9,26,28	17.1
AZ096	Zabludoff, A. van Gorkom, J.H. Mihos, C. Zaritsky, D. Shectman, S.	Calif.-Santa Cruz Columbia Johns Hopkins Calif.-Santa Cruz Mt. Wilson	Distribution and kinematics of HI in post merger galaxies	20 line	8, 13, 14, 15, 16, 18, 20	46.7
BB075	Biretta, J. Junor, B.	STScI New Mexico	Search for superluminal motion in the nucleus of M87	20 Single antenna VLBI w/AK441, AU072	30	7.9
BD046	Diamond, P.J. Kemball, A.J. Boboltz, D.A.	NRAO-Socorro NRAO-Socorro NRAO-Socorro	Monitoring SiO masers through a cycle of Mira TX Cam	0.7 Single antenna VLBI w/AH611, AF326, AR383, AS603	7, 22, 23	13.6
BF033	Frail, D.A.	NRAO-Socorro	Adhoc		2	5.5
BG064	Gabuzda, D.C. Kochanov, P.Y.	Lebedev Moscow Univ.	Polarization observations of six intraday variables	2, 3.6 Phased array VLBI	1	24.0
GP015	Polatidis, A.G. Wilkinson, P.N.	Onsala Jodrell Bank	Monitoring the dramatic changes in the nuclear jet of 3C380	6 Single antenna VLBI w/AH582, AH592, TEST	9	12.1
GR015	Rupen, M.P. Bartel, N. Bietenholz, M.F. Beasley, A.J. Conway, J. Rius, A. Altunin, V. Jones, D. Graham, D. Venturi, T. Umana, G.	NRAO-Socorro York York NRAO-Socorro Onsala Barcelona JPL JPL MPIFR Bologna Noto	VLBI Imaging of Supernova 1993J in M81	3.6, 6, 20 Phased array VLBI	6	13.0
VT154	VSOG	ISAS	HALCA In-Orbit Checkout	1.3 Phased array VLBI	18	8.6
VT806	VSOG	ISAS	HALCA In-Orbit Checkout	20 Phased array VLBI	26	9.6
	Staff	NRAO	Baselines, Pointing, Delays Maintenance Move/Operations Software General tests			53.9 41.9 31.9 16.0 61.8

The average downtime was 4.1%.

The array was scheduled for 100.0% (722.0 hours)  
519.8 hours (72.0% of time) for astronomical programs  
144.3 hours (20.0% of time) for tests/calibration  
57.9 hours ( 8.0% of time) for maintenance  
Total 722.0 hours (100.0%) scheduled.

Array was in configuration CnB from June 1 through June 23.

Array was in configuration C from June 23 through June 30 .

Total Number of astronomical programs was 56.

The following independent proposals shared simultaneous observing time (33.6 hours total simultaneous observing):

Projects	Hours
AF326/BD046	3.0
AH582/GP015	5.6
AH592/GP015	1.5
AH604/BD046	0.9
AH611/BD046	1.6
AK441/BB075	2.4
AM558/move/op	2.1
AR383/BD046	1.4
AS603/BD046	5.2
AU072/BB075	5.4
test/GP015	4.5

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AB628	Becker, R.H. Helfand, D.J. White, R.L. Perley, R.	Calif.-Davis Columbia STScI NRAO-Socorro	Survey of the north galactic cap.	20	1-7, 11, 12, 15 , 17-20, 22-26	203.2
AB780	Bridle, A.H. Perley, R.A. Swain, M.R.	NRAO-CV NRAO-Socorro Rochester	Fully sampled imaging of the lobes of 3C219	3.6	9	8.0
AB805	Biretta, J. Owen, F. Zhou, F.	STScI NRAO-Socorro NMIMT	VLA monitoring of the M87 jet	0.7, 1.3	24	4.0
AB816	Braatz, J.A. Wilson, A.	Maryland Maryland	Continuum emission from H2O megamaser galaxies	6, 20	20	2.0
AB818	Butler, B. Clancy, R.T.	NRAO-Socorro Space Science Inst	Observations of water vapor in the atmosphere of Mars	1.3 line	16	10.5
AB821	Bolton, S.J. Waite, J.H. Dulk, G.A. Leblanc, Y. Sault, R.J.	JPL Southwest Research Paris Obs Paris Obs ATNF	Jupiter in conjunction with Galileo, HST, and ROSat	6, 20 w/move/op	6, 7, 11, 12	28.5
ADHOC	Butler, B.	NRAO-Socorro	Adhoc Proposal	w/AW362	3	1.0
ADHOC	Denn, G.	Iowa	Adhoc Proposal	w/BF033	14	0.6
ADHOC	Frail, D.	NRAO-Socorro	Adhoc Proposal	w/BB075	8, 13, 14, 21, 2 2, 24, 25, 27	15.5
AE113	Eyres, S.P. Bode, M.F. Davis, R.J. Evans, A. Geballe, T. Pollacco, D. Salama, A.	Keele John Moores Jodrell Bank Keele Hawaii RGO ESA	Sakurai's Object	6	28	2.0
AF310	Fassnacht, C. Pearson, T. Readhead, T. Myers, S. Browne, I. Wilkinson, P.	Caltech Caltech Caltech Pennsylvania Jodrell Bank Jodrell Bank	VLA monitoring of the gravitational lens system 1608+656	3.6	3, 8, 17, 21, 23 , 26	7.5
AF318	Florkowski, D.	USNO	Monitoring the radio emission from the Wolf-Rayet Binary HD 192641	0.7, 2, 6, 20	10	1.0
AF319	Frail, D.A. Kulkarni, S.R. Greiner, J.	NRAO-Socorro Caltech MPIE	New search for radio counterpart to SGR 1900+14	6, 20, 90	2	11.0
AF324	Frail, D.A. Vasisht, G. Kulkarni, S.R.	NRAO-Socorro Caltech Caltech	Further monitoring of the soft gamma repeater SGR 1806-20	3.6	26	2.0
AF326	Frail, D.A. Kulkarni, S.R.	NRAO-Socorro Caltech	Search for radio counterparts of gamma ray bursters with BeppoSAX	20 w/move/op	18, 27	4.0
AG485	Galama, T.J. deBruyn, A.G. van Paradijs, J. Hanlon, L.	Amsterdam NFRA Amsterdam Dublin	Candidate counterparts to GRB 940301	3.6, 6, 20, 90	23	1.9
AG508	Garcia-Barreto, J.A. Franco, J. Martos, M. Carrillo, R.	UNAM UNAM UNAM UNAM	Polarization of the continuum emission of the barred spiral NGC 3367	20	18	9.0
AG510	Gunn, A.G. Spencer, R.E. Migenes, V. Umana, G. Trigilio, C. Budding, E.	Jodrell Bank Jodrell Bank NAO Noto Noto Carter Obs.	Microwave survey of Northern algol systems	6	31	3.5
AG514	Graham, J.R. Liu, M.C.	Calif.-Berkeley Calif.-Berkeley	Is the hyperluminous IRAS galaxy FSC 15307+3252 a gravitational lens?	3.6	10	6.5
AG516	Gao, Y. Lo, K.Y. Gruendl, R. Hwang, C.	Illinois Illinois Illinois Academia Sinica	Luminous IR galaxies in a merger sequence	20	26	5.0
AG518	Garcia-Sanchez, J. Paredes, J.M. Preston, R.A. Jones, D.L.	Barcelona Barcelona JPL JPL	Multi-frequency observations of selected RS CVn Binaries	2, 3.6, 6, 20	29	4.5



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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AH592	Hjellming, R.M. Rupen, M.P.	NRAO-Socorro NRAO-Socorro	Monitoring galactic black hole x-ray transients	2, 3.6, 6, 20	5, 13, 21, 29	6.0
AH593	Hewitt, J.N. Moore, C.B. Haarsma, D.B.	MIT Groningen MIT	Gravitational lens time delays	2, 3.6	1, 8, 16, 23	6.1
AH597	Hoare, M.G.	Leeds	Deep imaging of GL 490	3.6	3	3.9
AH603	Harper, G. Brown, A. Bennett, P. Hummel, C. Walder, R.	Colorado Colorado Colorado USRA ETH	Radio modulation of Zeta Aur's orbitally varying HII region	3.6, 6	15	4.0
AH604	Haarsma, D.B. Hewitt, J.N. Lehar, J. Burke, B.F.	MIT MIT CfA MIT	Monitoring gravitational lens 0957+561	3.6, 6	10	1.0
AJ258	Jensen, E.L. Koerner, D.W. Mathieu, R.D.	Arizona State JPL Wisconsin	Circumstellar disks in pre-main sequence binary environment	0.7, 1.3, 3.6	8, 9	15.8
AK397	Frail, D.	NRAO-Socorro	Search for radio counterparts of gamma ray bursters with high energy transient experiment (HETE)	20	28,30	2.0
AK425	Koligaard, R.I. Ghisellini, G. Maraschi, L. Pesce, J. Sambruna, R. Urry, C.M.	Fermilab Torino Genova STScI STScI STScI	Multifrequency monitoring of blazars	1.3, 2, 3.6, 6, 20	23, 29	2.5
AK437	Karovska, M. Mattei, J. Carilli, C.	CfA AAVSO NRAO-Socorro	Possible jet formation in the CH Cyg symbiotic system	2, 3.6, 20	18	2.0
AL403	Leitch, E.M. Pearson, T.J. Readhead, A.C.S.	Caltech Caltech Caltech	Monitoring of point sources in the OVRO microwave background fields	1.3, 2, 3.6	9	7.6
AL407	Lefloch, B. Lazareff, B. Eisloffel, J.	IRAM IRAM Hawaii	The Cep E protostellar core	3.6	5	8.0
AL410	Lehar, J. Falcke, H. Barvainis, R. Menten, K. Birkinshaw, M. Elvis, M. Blundell, K.	CfA Maryland Haystack MPIfR Bristol CfA Oxford	Variability of radio quiet quasars	3.6	4	5.0
AL412	Lara, L. Cotton, W.D. Feretti, L. Giovannini, G. Marcaide, J.M. Venturi, T.	IAA NRAO-CV Bologna Bologna Valencia Bologna	Large angular size radio sources from the NRAO VLA Sky survey	6, 20	25	9.0
AL418	Lehar, J. Falcke, H. Barvainis, R. Menten, K. Birkinshaw, M. Elvis, M. Blundell, K.	CfA Maryland Haystack MPIfR Bristol CfA Oxford	Variability of radio quiet quasars	3.6 w/move/op	30	6.0
AM551	Marti, J. Paredes, J.M. Peracaula, M.	Saclay Barcelona Barcelona	Arcsecond radio jets in cygnus X-3	6	4	8.0
AM558	Marti, J. Mirabel, F. Rodriguez, L.F. Chaty, S.	Saclay Saclay UNAM Saclay	New radio counterparts of GRANAT sources in galactic bulge	3.6, 6	30	8.0
AM567	Machalski, J.	Jagiellonian	Nucleus of an extended double		24	1.0
AO132	O'Dea, C. Elvis, M.	STScI CfA	High redshift quasars with large X-ray absorbing columns	0.7, 1.3, 2, 3.6, 6, 20, 90	30	6.0
AP343	Pentericci, L. Carilli, C. Miley, G. Rottgering, H.	Leiden NRAO-Socorro Leiden Leiden	Radio continuum imaging of high redshift radio galaxies	6,3.6	23	1.0
AP350	Patnaik, A.R. Menten, K.M.	MPIfR MPIfR	Gravitational lens candidate HE 2149-2745	2, 3.6	29	4.5

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AR377	Rudnick, L. Koralesky, B. Dickel, J.	Minnesota Minnesota Illinois	Asymmetric expansion of the Kepler SNR shells	6, 20	23, 24	12.0
AR378	Rudnick, L. Koralesky, B. Kassim, N. Perley, R.A.	Minnesota Minnesota NRL NRAO-Socorro	Dynamical evolution and current particle acceleration in Cas A	3.6, 6, 20, 90,400	17, 19	25.0
AR379	Rajagopal, J. Srinivisan, G. Dwarakanath, K.S.	Raman Raman Raman	HI studies of interstellar clouds identified through Ca+ and Na abs.	20 line w/BB075	1	9.5
AR381	Rodriguez, L.	NRAO-Socorro			14,15	8.5
AS568	Sramek, R. Weiler, K. VanDyk, S. Panagia, N.	NRAO-Socorro NRL UCLA STSci	Properties of radio supernovae	1.3, 2, 3.6, 6, 20 move/op	2, 30	6.5
AS604	Spangler, S.R. Mancuso, S.	Iowa Iowa	Faraday rotation in the solar corona	20	11, 22, 26, 31	19.1
AS605	Spangler, S.R. Mancuso, S.	Iowa Iowa	Hydromagnetic waves in the solar corona via Faraday rotation measurement	20	6,20	9.0
AU071	Umana, G. Leone, F. Trigilio, C.	Noto Catania Noto	Monitoring the radio emission of B Lyrae	2, 6	10,15,18,20, 23,28	6.1
AW362	White, S.	Maryland	The stellar activity cycle on active stars	3.6, 6, 20	27	2.3
BB075	Biretta, J. Junor, B.	STSci UNM	Search for superluminal motion in the Nucleus of M87	18 w/AH593, AR379	1	3.0
BD046	Diamond, P.J. Kemball, A.J. Boboltz, D.A.	NRAO-Socorro NRAO-Socorro NRAO-Socorro	Monitoring SiO masers through a cycle of Mira TX Cam	0.7 Single antenna VLBI w/BD046/test	24	9.0
BF029	Frail, D.A. Beasley, A.J. Claussen, M.J. Goss, M. Desai, K.M.	NRAO-Socorro NRAO-Socorro NRAO-Socorro NRAO-Socorro NRAO-CV	VLBA Observations of the 1720 MHz OH Masers in W44 and W28	20 Single antenna VLBI w/AJ258	8	8.3
BF033	Frail, D.	NRAO-Socorro	Adhoc/GRB 970508		16	10.0
BL038	Lestrade, J.F. Phillips, R.B. Jones, D.I. Preston, R.A.	Meudon Haystack JPL JPL	Search for extra solar planets by VLBI astrometry	3.6 Phased Array VLBI	3, 10, 16	18.5
BL049	Lestrade, J-F. Phillips, R.B. Jones, D.L. Preston, R.A.	Meudon Haystack JPL JPL	A possible Jupiter-mass planet orbiting Sigma 2 CrB	3.6 Phased Array VLBI	26	12.0
BM078	Marvel, K.B. Boboltz, D.A.	Caltech NRAO-Socorro	Water masers associated with a proto-planetary nebula	1.3	28	1.5
VT133	VSOG		HALCA In-Orbit Checkout	18	19	2.5
VT136	VSOG					8.3
	Staff	NRAO	Baselines, Pointing, Delays Maintenance Move/Operations Software General tests			33.0 45.5 26.3 28.1 37.9

The average downtime was 5.1%.

The array was scheduled for  
585.2 hours (78.4% of time) for astronomical programs  
87.2 hours (11.7% of time) for tests/calibration  
73.7 hours (9.9% of time) for maintenance  
Total 746.1 hours (100.0%) scheduled.

Array was in configuration B from May 1 through May 27.

Array was in configuration B from May 27 through May 31.

Total Number of astronomical programs was 59.

The following independent proposals shared simultaneous observing time (34.4 hours total simultaneous observing):

Projects	Hours
AB821/move/op	5.2
AF326/move/op	2.0
AH592/move/op	2.5
AH593/BB075	1.1
AJ258/BF029	7.2
AL403/BF029	1.1
AL418/move/op	3.5
AR379/BB075	2.0
AS568/move/op	3.8
BD046/BD048	3.0
test/BD046	3.0

## VLA Utilization Report April 1997

Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AB628	Becker, R.H. Helfand, D.J. White, R.L. Perley, R.	Calif.-Davis Columbia STScI NRAO-Socorro	Survey of the north galactic cap.	20	1,4-6,10,13- 15,17,18,20- 22,25,27,29	183.0
AB805	Biretta, J. Owen, F. Zhou, F.	STScI NRAO-Socorro STScI	VLA monitoring of the M87 jet	0.7, 1.3	4,9	8.0
AC480	Carilli, C.	NRAO-Socorro	Detailed imaging of themolecular absorption system at z=0.88582 towards PKS 1830-211	7 w/BG069	6	1.0
ADHOC	Sramek, R.	NRAO-Socorro	Adhoc Proposal		3,9	2.7
ADHOC	Blundell, K.	Oxford	Adhoc Proposal		9	2.1
ADHOC	Blundell, K.	Oxford	Adhoc Proposal		17	1.2
AF310	Fassnacht, C. Pearson, T. Readhead, T. Myers, S. Browne, I. Wilkinson, P.	Caltech Caltech Caltech Pennsylvania Jodrell Bank Jodrell Bank	VLA monitoring of the gravitational lens system 1608+656	3.6	1,5,7,11,15, 19,22,26	8.2
AF318	Florkowski, D.	USNO	Monitoring the radio emission from the Wolf-Rayet Binary HD 192641	0.7, 2, 6, 20	22	1.5
AF323	Florkowski, D.	USNO	The radio emission from the wolf-rayet binary HD 192641	0.7, 2, 3.6, 6	25	8.0
AG511	Gregory, P.C. Poller, B.J. Scott, W.K.	UBC UBC UBC	VLA study of new sample of short term highly variable radio sources	1.3, 3.6, 20	16	12.0
AG516	Gao, Y. Lo, K.Y. Gruendl, R. Hwang, C.	Illinois Illinois Illinois Academia Sinica	Luminous IR galaxies in a merger sequence	20	30	2.2
AH592	Hjellming, R.M. Rupen, M.P.	NRAO-Socorro NRAO-Socorro	Monitoring galactic black hole x-ray transients	2, 3.6, 6, 20	5,7,12,18,26	8.0
AH593	Hewitt, J.N. Moore, C.B. Haarsma, D.B.	MIT Groningen MIT	Gravitational lens time delays	2, 3.6	1,3,6,11,13, 14,18,20,22, 25,28-30	17.0
AH604	Haarsma, D.B. Hewitt, J.N. Lehar, J. Burke, B.F.	MIT MIT CfA MIT	Monitoring gravitational lens 0957+561	3.6, 6	9	1.0
AJ257	Junor, B. Salter, C. Bignell, C.	New Mexico Arecibo NRAO-Socorro	Proper motion in the planetary nebula NGC 7009	3.6	29	10.0
AK397	Kulkarni, S.R. Frail, D.A.	Caltech NRAO-Socorro	Search for radio counterparts of gamma ray bursters - SAX followup	20	1, 4, 12, 13, 18, 29	6.6
AK425	Kollgaard, R.I. Ghisellini, G. Maraschi, L. Pesce, J. Samburana, R. Urry, C.M.	Fermilab Torino Genova STScI STScI STScI	Multifrequency monitoring of blazars	1.3, 2, 3.6, 6, 20	1, 14	2.5
AK431	Kovo, O. Turner, J. Beck, S.C.	Tel Aviv UCLA Tel Aviv	Multi-frequency continuum maps of Wolf-Rayet dwarf galaxies	3.6, 6 w/BW033	19	10.5
AK437	Karovska, M. Mattei, J. Carilli, C.	CfA AAVSO NRAO-Socorro	Possible jet formation in the CH Cyg symbiotic system	2, 3.6, 20	7	2.0
AL383	Lisenfeld, U. Alexander, P. Pooley, G.G.	Arcetri MRAO MRAO	Cosmic ray propagation and the star formation history of galaxies	20	23	1.0
AL401	Lacy, M. Ridgway, S. Rawlings, S. King, L.	Oxford Oxford Oxford Oxford	Rotation measures of z~1 radio sources	3.6, 6, 20	24	11.0
AL403	Leitch, E.M. Pearson, T.J. Readhead, A.C.S.	Caltech Caltech Caltech	Monitoring of point sources in the OVRO microwave background fields	1.3, 2, 3.6	13	4.5
AL410	Lehar, J. Falcke, H. Barvainis, R. Menten, K. Birkinshaw, M. Elvis, M. Blundell, K.	CfA Maryland Haystack CfA Bristol CfA Oxford	Variability of radio quiet quasars	3.6	3	4.0

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AM547	Mirabel, F. Rodriguez, L.F.	Saclay UNAM	Large scale radio lobes in GRS 1915+105	20	19	6.0
AM550	Marti, J. Mirabel, I.F. Rodriguez, L.F. Mereghetti, S. Treves, A. Chiappetti, L.	Saclay Saclay UNAM Milano Trieste Milano	Coordinated SAX and VLA Observations of Black Hole Candidate 1758-258	3.6, 6	10	8.0
AP331	Pooley, G.G. Hardcastle, M.J. Riley, J.M. Alexander, P.	MRAO MRAO MRAO MRAO	Constraining the luminosity function of jets in FR II radio galaxies	3.6, 6	12	12.0
AP348	dePater, I.	341	Thermal emission from Comet Hale-Bopp	7, 3.5	24	10.0
AR379	Rajagopal, J. Srinivisan, G. Dwarakanath, K.S.	Raman Raman Raman	HI studies of interstellar clouds identified through Ca+ and Na abs.	20 line	3, 11	12.5
AS568	Sramek, R. Weiler, K. VanDyk, S. Panagia, N.	NRAO-Socorro NRL Calif.-Berkeley STSci	Properties of radio supernovae	1.3, 2, 3.6, 6, 20	23	2.0
AS600	Stocke, J.T. Rector, T.A. Perlman, E.	Colorado Colorado STSci	Low-redshift EMSS BL Lacertae objects	20	28	6.0
AS606	Seaquist, E.R. Frail, D.A.	Toronto NRAO-Socorro	Third epoch observations of the Nova remnant GK Per	20	11	5.0
AU071	Umana, G. Leone, F. Trigilio, C.	Noto Catania Noto	Monitoring the radio emission of B Lyræ	2, 6	1, 6, 11, 12, 14	5.0
AW452	Willson, R. Lang, K.R. Kile, J.N.	Tufts Tufts Tufts	VLA-SOHO Observations of the solar transition region	2, 3.6, 90	10, 12, 15, 17, 19	19.1
AW453	Wallace, B. Frail, D. Landecker, T.	DRAO NRAO-Socorro DRAO	P-band imaging of two filled-center supernova remnants	90	13	10.0
AW460	Wooten, A. Claussen, M. Wilking, B. Meehan, L.	NRAO-CV NRAO-Socorro Missouri Missouri	Origin of water masers toward low mass young stellar objects	1.3 line w/BG069	6, 7	4.5
AY082	Yun, M.S. Carilli, C.	NRAO-Socorro NRAO-Socorro	Atomic hydrogen in radio galaxies and quasar host galaxies at z=3	90 line	5	12.0
AZ090	van Zee, L. Salzer, J.J. Skillman, E.D.	NRAO-Socorro Wesleyan Minnesota	Do star formation thresholds depend on metallicity?	20 line	3,4,11	22.0
BB064	Benz, A.O. Conway, J.E. Alef, W. Gudel, M.	ETH JIVE MPIfR Paul Scherrer	Planet search via astrometry of dMe stars	3.6 Phased array VLBI	18	9.9
BB070	Blundell, K.M. Beasley, A.J. Lacy, M.	Oxford NRAO-Socorro Oxford	Are the jets in radio quiet quasars relativistic?	3.6 Phased array VLBI	26	6.5
BB072	Butler, B.J. Beasley, A.J. Wrobel, J.M. Palmer, P.	NRAO-Socorro NRAO-Socorro NRAO-Socorro Chicago	Absorption of bright background sources by the OH in comet Hale-Bopp	20	14, 15	10.0
BG066	Gallimore, J.F. Baum, S.A. O'Dea, C.	MPE STSci STSci	Inner Torus of NGC 1068	6, 20 Phased array VLBI	26, 28	23.0
BG069	Giovannini, G. Cotton, W.D. Feretti, L. Lara, L. Venturi, T.	Bologna NRAO-CV Bologna IAA Bologna	An unbiased sample of radio galaxies	6 Single antenna VLBI w/AY082, AC480, AW460, AH593	5	11.0
BH025	Herrnstein, J.R. Greenhill, L.J. Moran, J.M. Trotter, A. Diamond, P.J. Nakai, N. Inoue, M. Miyoshi, M.	CfA CfA CfA CfA NRAO-Socorro Nobeyama Nobeyama Mizusawa	Nuclear continuum source in NGC 4258	1.3 Phased array VLBI	7	13.9
BM049	Mioduszewski, A.J. Gabuzda, D.C. Aller, H.D.	NRAO-Socorro Lebedev Michigan	Monitoring of six highly variable BL lacertae objects	1.3, 3.6	6	2.0

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Progrm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
BM074	Mutel, R. Molnar, L.	Iowa Iowa	Monitoring Algol's radio corona	3.6 Phased array VLBI	20, 21, 22	33.1
BN004	Nakai, N. Inoue, M. Hagiwara, Y. Diamond, P.	Nobeyama Nobeyama Graduate University NRAO-Socorro	H20 megamaser in the LINER galaxy IC 1481	1.3 Phased array VLBI	27	10.8
BW033	Walker, M.A. Beasley, A.J.	Sydney Univ NRAO-Socorro	Angular scattering by extragalactic plasmas	3.6, 6, 20, 90 Single antenna VLBI w/AF310, AM547, AW452, test/ AK431, AH593	19	24.1
BY005	Yakimov, V.E. Gabuzda, D.C. Vetukhnovskaya, Y.N. Kardashev, N.S. Bychkova, V.S. Kovalev, Y.Y.	Lebedev Lebedev Lebedev Lebedev Lebedev Lebedev	Polarization observations of gamma ray sources	2, 6	7	3.0
VT106	VSOG		HALCA in orbit checkout	20 Phased array VLBI	1	5.0
STUDE	Reid, M. Staff	Harvard NRAO	Student observations Baselines, Pointing, Delays Maintenance Software General tests		10	1.0 40.0 69.5 28.0 28.5

The average downtime was 3.7%.

The array was scheduled for  
 558.4 hours (77.4% of time) for astronomical programs  
 83.4 hours (11.6% of time) for tests/calibration  
 79.2 hours (11.0% of time) for maintenance  
 Total 721.0 hours (100.0%) scheduled.

Array was in configuration B from April 1 through April 30.

Total Number of astronomical programs was 47.

The following independent proposals shared simultaneous observing time (35.0 hours total simultaneous observing):

Projects	Hours
AC480/BG069	1.0
AF310/BW033	0.3
AH593/BG069	0.1
AH593/BW033	1.2
AK431/BW033	10.5
AM547/BW033	6.0
AW452/BW033	4.0
AW460/BG069	3.0
AY082/BG069	6.9
Test/BW033	2.0

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AB628	Becker, R.H. Helfand, D.J. White, R.L. Perley, R.	Calif.-Davis Columbia STScI NRAO-Socorro	Survey of the north galactic cap.	20	1,2,7,8,11,12,15,17,20,21,23-26,28,30,31	170.5
AB796	Bridle, A.H. Burns, J.O. Hough, D.H. Laing, R.A. Lonsdale, C.J. Wardle, J.F.C.	NRAO-CV NM State Trinity RGO Haystack Brandeis	Deep VLA imaging of complete sample of 3CR lobe-dominated quasars	3.6, 6	3	12.0
AB818	Butler, B. Clancy, R.T.	NRAO-Socorro Space Science Inst	Observations of water vapor in the atmosphere of Mars	1.3 line	27	10.5
AB822	Brown, A. Gagne, M. Stern, R. Ayres, T. Osten, R.	Colorado Colorado Lockheed Colorado Colorado	Coordinated observations of the RS CVn Binary Sigma 2 CrB	3.6, 6, 20 w/move/op	11, 12	37.0
AC478	Cox, A.L. Sparke, L. Sackett, P.	Iowa Wisconsin Kapteyn	21cm line observations of polar ring galaxies	20 line	13	11.7
AD392	DeBreuck, C. van Breugel, W. Rottgering, H. Miley, G.	Lawrence Livermore Lawrence Livermore Leiden Leiden	Highest redshift radio galaxies	6, 20	9	2.0
ADHOC	Frail, D.	NRAO-Socorro	Adhoc Proposal		3,6,10,13	2.8
ADHOC	Herrnstein, J.	NRAO-Socorro	Adhoc Proposal		18	0.9
AF310	Fassnacht, C. Pearson, T. Readhead, T. Myers, S. Browne, I. Wilkinson, P.	Caltech Caltech Caltech Pennsylvania Jodrell Bank Jodrell Bank	VLA monitoring of the gravitational lens system 1608+656	3.6	3, 8, 14, 16, 21, 25, 30	7.6
AF318	Florkowski, D.	USNO	Monitoring the radio emission from the Wolf-Rayet Binary HD 192641	0.7, 2, 6, 20	15	1.0
AF322	Fernandez, Y.R. Lisse, C.M. Kundu, A. A'Hearn, M.F.	Maryland Maryland STScI Maryland	Observations of the nucleus and dust coma of comet C/1995 O1	3.6	20, 21, 22, 23, 24, 27	65.5
AF324	Frail, D.A. Vasisht, G. Kulkarni, S.R.	NRAO-Socorro Caltech Caltech	Further monitoring of the soft gamma repeater SGR 1806-20	3.6	15	2.5
AG485	Galama, T.J. deBruyn, A.G. van Paradijs, J. Hanlon, L.	Amsterdam NFRA Amsterdam Dublin	Candidate counterparts to GRB 940301	3.6, 6, 20, 90	3	1.5
AG510	Gunn, A.G. Spencer, R.E. Migenes, V. Umana, G. Trigilio, C. Budding, E.	Jodrell Bank Jodrell Bank NAO Noto Noto Carter Obs.	Microwave survey of Northern algol systems	6	12	7.0
AG511	Gregory, P.C. Poller, B.J. Scott, W.K.	UBC UBC UBC	A new sample of short term highly variable radio sources	1.3, 3.6, 20 w/BS037	18	12.0
AG516	Gao, Y. Lo, K.Y. Gruendl, R. Hwang, C.	Illinois Illinois Illinois Academia Sinica	Luminous IR galaxies in a merger sequence	20	9	5.0
AH592	Hjellming, R.M. Rupen, M.P.	NRAO-Socorro NRAO-Socorro	Monitoring galactic black hole x-ray transients	2, 3.6, 6, 20	2, 9, 16, 22, 31	5.1
AH593	Hewitt, J.N. Moore, C.B. Haarsma, D.B.	MIT Groningen MIT	Gravitational lens time delays	2, 3.6	1,3,8,10,16, 20,24,28	13.0
AH603	Harper, G. Brown, A. Bennett, P. Hummel, C. Walder, R.	Colorado Colorado Colorado USRA ETH	Radio modulation of Zeta Aur's orbitally varying HII region	3.6, 6	15	4.0
AH604	Haarsma, D.B. Hewitt, J.N. Lehar, J. Burke, B.F.	MIT MIT CfA MIT	Monitoring gravitational lens 0957+561	3.6, 6	18	1.0
AK397	Kulkarni, S.R. Frail, D.A.	Caltech NRAO-Socorro	Search for radio counterparts of gamma ray bursters - SAX followup	w/BL050	1,6,16,22,29	6.5

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AK425	Kollgaard, R.I. Ghisellini, G. Maraschi, L. Pesce, J. Sambruna, R. Urry, C.M.	Fermilab Torino Genova STScI STScI STScI	Multifrequency monitoring of blazars	1.3, 2, 3.6, 6, 20	3, 16, 27	3.0
AK437	Karovska, M. Mattei, J. Carilli, C.	CfA AAVSO NRAO-Socorro	Possible jet formation in the CH Cyg symbiotic system	2, 3.6, 20	8	2.0
AK440	Kurtz, S. Carral, P. Rodriguez, L.F. Hofner, P. DePree, C.	UNAM Guanajuato UNAM NAIC Agnes Scott	Exciting sources of water masers near cometary HII regions	1.3, 2, 3.6, 6	16	3.3
AL403	Leitch, E.M. Pearson, T.J. Readhead, A.C.S.	Caltech Caltech Caltech	Monitoring of point sources in the OVRO microwave background fields	1.3, 2, 3.6	8	9.0
AL410	Lehar, J. Falcke, H. Barvainis, R. Menten, K. Birkinshaw, M. Elvis, M. Blundell, K.	CfA Maryland Haystack CfA Bristol CfA Oxford	Variability of radio quiet quasars	3.6	11	4.0
AM552	Magazzu, A. Umana, G. Martin, E.	Catania Noto IAC	Radio survey of new young low-mass stars south of Taurus-Auriga	3.6	9	6.5
AM553	Mirabel, F. Piro, L. Marti, J. Chaty, S. Rodriguez, L.F. Mereghetti, S. Giommi, P. Heise, J.	Saclay IAS-Frascati Saclay Saclay UNAM Milano SDC-Rome Utrecht	Galactic hard x-ray sources at time of Sigma observations	6, 20	9, 28	2.0
AM554	Mundell, C.G. Done, C. Pedlar, A. Shone, D.L. Thean, A.H.C. Brinks, E.	Manchester Durham Jodrell Bank NRAL NRAL Guanajuato	Neutral hydrogen observations of Seyfert galaxy NGC 5506	20 line w/BL050	29	10.5
AP334	Perley, R.A. Carilli, C. Dreher, J.	NRAO-Socorro NRAO-Socorro SETI Inst.	VLA Observations of Cygnus A at 43 GHz	0.7 w/BL050	29	12.0
AP346	Perley, R. Wall, J. Djorgovski, G. de Carvalho, R.	NRAO-Socorro RGO Caltech Caltech	Radio loud fraction and redshift cutoff of $z > 4$ quasars	6	14	16.0
AQ013	Quirrenbach, A. Witzel, A. Krichbaum, T.P. Kraus, A. Zensus, A.	MPIE MPIfr MPIfr MPIfr NRAO-CV	Coordinated observations of intraday variables with ISO	2, 3.6, 6, 20	1-4,7	10.1
AS568	Sramek, R. Weiler, K. VanDyk, S. Panagia, N.	NRAO-Socorro NRL Calif.-Berkeley STScI	Properties of radio supernovae	1.3, 2, 3.6, 6, 20 w/BL050	29	2.0
AS597	Strelitski, V. Butler, B. Kogan, L. Palmer, P.	Smithsonian NRAO-Socorro NRAO-Socorro Chicago	Imaging of Comet Hale-Bopp in the 1.35cm H2O line	1.3 line	14	6.0
AS599	Stockton, A. Ridgway, S.E.	Hawaii Oxford	Radio optical alignment in $z \sim 1$ quasars	3.6, 6	1	1.0
AS605	Spangler, S.R. Mancuso, S.	Iowa Iowa	Hydromagnetic waves in the solar corona via Faraday rotation measurement	20	28	12.0
AU071	Umana, G. Leone, F. Trigilio, C.	Noto Catania Noto	Monitoring the radio emission of B Lyrae	2, 6	1, 16, 31	3.0
AW459	Wilner, D. Ho, P. Rodriguez, L.	CfA CfA UNAM	7mm continuum mapping of the HL Tau circumstellar disk	0.7	16	10.5
AY081	Yun, M.S. Rupen, M.	NRAO-Socorro NRAO-Socorro	Radio recombination lines from circumnuclear disks	3.6, 6, 20 Line	10	5.5



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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AZ090	van Zee, L. Salzer, J.J. Skillman, E.D.	NRAO-Socorro Wesleyan Minnesota	Do star formation thresholds depend on metallicity?	20 line	31	7.0
BB072	Butler, B.J. Beasley, A.J. Wrobel, J.M. Palmer, P.	NRAO-Socorro NRAO-Socorro NRAO-Socorro Chicago	Absorption of bright background sources by the OH in comet Hale-Bopp	20	25	12.0
BC066	Claussen, M.J. Diamond, P.J. Braatz, J.A. Wilson, A.S. Henkel, C.	NRAO-Socorro NRAO-Socorro Maryland Maryland MPIfR	Water masers in elliptical galaxy NGC 1052	1.3 Phased array VLBI	6	8.0
BG064	Gabuzda, D.C. Kochanov, P.Y.	Lebedev Moscow Univ.	Polarization observations of six intraday variables	2, 3.6 w/BL050	29	3.0
BH020	Hagiwara, Y. Kawabe, R. Diamond, P.J. Kameno, S. Nakai, N. Inoue, M. Kohno, K.	Graduate University NAO NRAO-Socorro NAO NAO NAO NAO	Newly found H2O megamaser in galaxy NGC 5793	1.3 Phased array VLBI	2	7.9
BH025	Herrnstein, J.R. Greenhill, L.J. Moran, J.M. Trotter, A. Diamond, P.J. Nakai, N. Inoue, M. Miyoshi, M.	Cfa Cfa Cfa Cfa NRAO-Socorro NAO NAO Mitzusawa	Nuclear continuum source in NGC 4258	1.3 Phased array VLBI	6, 22	26.1
BH032	Haarsma, D.B. Lehar, J. Shapiro, I.I.	MIT Cfa Cfa	Model constraints for gravitational lens 0957+561	20 Phased array VLBI	19	14.0
BL038	Lestrade, J.F. Phillips, R.B. Jones, D.I. Preston, R.A.	Meudon Haystack JPL JPL	Search for extra solar planets by VLBI astrometry	3.6 Phased array VLBI	30	6.0
BL049	Lestrade, J-F. Phillips, R.B. Jones, D.I. Preston, R.A.	Meudon Haystack JPL JPL	A possible Jupiter-mass planet orbiting Sigma 2 CrB	3.6 Phased array VLBI	16	12.0
BL050	Lara, L. Cotton, W.D. Feretti, L. Giovannini, G. Marcaide, J.M. Venturi, T.	IAA NRAO-CV Bologna Bologna Valencia Bologna	Looking for two-sided parsec scale jets: weak radiogalaxy nuclei	6 Single antenna VLBI w/AP334, AK397, BG064, AS568, AM554	29	12.0
BM056	Moran, J.M. Herrnstein, J.R. Greenhill, L.J. Miyoshi, M. Inoue, M. Nakai, N. Diamond, P.J. Henkel, C.	Cfa Cfa Cfa Mitzusawa NAO NAO NRAO-Socorro MPIfR	The proper motions of the water vapor masers in NGC 4258	1.3 Phased array VLBI	5	13.0
BS037	Slysh, V.I. Kogan, L.R. Kalenski, S.V. Valtts, I.E. Dzura, A.M.	Lebedev NRAO-Socorro Lebedev Lebedev Lebedev	Class I methanol masers	0.7 Single antenna VLBI w/AG511, test	19	8.2
BS044	Sato, S. Inoue, M. Nakai, N. Shibata, K.M. Migenes, V. Kameno, S. Fujisawa, K.	NAO NAO NAO NAO NAO NAO ISAS	Monitoring of the continuum and H2O maser emission in NGC 3079	1.3, 2, 3.6 Phased array VLBI	7	11.9
	Staff	NRAO	Baselines, Pointing, Delays Maintenance Move/Operations Software General tests			42.7 45.1 14.2 18.0 24.2

The average downtime was 3.5%.

The array was scheduled for  
605.7 hours (81.2% of time) for astronomical programs  
77.1 hours (10.3% of time) for tests/calibration  
63.1 hours ( 8.5% of time) for maintenance  
Total 745.9 hours (100.0%) scheduled.

Array was in configuration B from March 1 through March 31.

Total Number of astronomical programs was 51.

The following independent proposals shared simultaneous observing time (36.7 hours total simultaneous observing):

Projects	Hours
AB822/move/op	2.4
AB822/move/op	6.1
AB822/move/op	8.1
AG511/BS037	8.0
AK397/BL050	1.5
AM544/BL050	4.3
AP334/BL050	1.2
A6568/BL050	2.0
BG064/BL050	3.0
Test/BS037	0.2

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AB628	Becker, R.H. Helfand, D.J. White, R.L. Perley, R.	Calif.-Davis Columbia STScI NRAO-Socorro	Survey of the north galactic cap.	20	5,16,17,19,2 1-23,25,27,2 8	122.2
AB781	Bock, D.C. Frail, D.A. Green, A.J.	Sydney NRAO-Socorro Sydney	The Vela X region	20	9	2.0
AB815	Baker, J.C. Hunstead, R.W. Dennett-Thorpe, J. Saunders, R.D.E.	MRAO Sydney MRAO MRAO	Alignment effect at low redshift	6, 20	1	3.4
AB816	Braatz, J.A. Wilson, A.	Maryland Maryland	Are H20 megamasers linked to accretion events?	6, 20	8, 9, 18, 24	5.5
AB817	Bontemps, S. Andre, P.	Stockholm Saclay	Physics and proper motions in radio jet from VLA 16234+2417	2, 3.6	4	5.0
AB818	Butler, B. Clancy, R.T.	NRAO-Socorro Space Science Inst	Observations of water vapor in the atmosphere of Mars	1.3 line	26	10.0
AB819	Balcells, M. van Gorkom, J. Sancisi, R.	IAC Columbia Kapteyn	Accreting HI on NGC 3656	20 line w/GP015	18, 20	16.0
AC479	Cox, A.L. Sparke, L.S.	Iowa Wisconsin	Radio continuum survey of polar ring galaxies at 20 cm	20	1, 16, 20	6.5
AC482	Christianto, H. Seaquist, E.R.	Toronto Toronto	Angular expansion of compact planetary nebula VY 2-2	2, 3.6, 6, 20	9	3.0
AD399	Dunn, D. Molnar, L. Fix, J.	Iowa Iowa Iowa	Multi-wavelength obs. of Saturn's rings at low inclination	0.7, 1.3, 2, 3.6, 6, 20 w/BS055	7, 14	21.0
ADHOC	van Zee, L.	NRAO-Socorro	Adhoc Proposal		3,4	6.0
ADHOC	Frail, D.	NRAO-Socorro	Adhoc Proposal		5	1.0
ADHOC	Hjellming, R.M.	NRAO-Socorro	Adhoc Proposal		5	5.0
ADHOC	Perley, R.A.	NRAO-Socorro	Adhoc Proposal		5	0.4
ADHOC	Carilli, C.	NRAO-Socorro	Adhoc Proposal		15	1.0
ADHOC	Moffet, D.	NMIMT	Adhoc Proposal		26	0.9
ADHOC	Krause, M.	MPIR, Bonn	Adhoc Proposal		27	1.5
AE108	Edge, A.C. Grainge, K.J.B. Jones, M.E. Saunders, R. Pooley, G.G.	Cambridge MRAO MRAO MRAO MRAO	Extreme giga-hertz peaked sources	0.7, 1.3, 2, 3.6, 6, 20	12	12.0
AF310	Fassnacht, C. Pearson, T. Readhead, T. Myers, S. Browne, I. Wilkinson, P.	Caltech Caltech Caltech Pennsylvania Jodrell Bank Jodrell Bank	VLA monitoring of the gravitational lens system 1608+656	3.6	2, 8, 13, 18, 23, 28	6.0
AF318	Florkowski, D.	USNO	Monitoring the radio emission from the Wolf-Rayet Binary HD 192641	0.7, 2, 6, 20	17	1.0
AF321	Frail, D.A. Goss, M.	NRAO-Socorro NRAO-Socorro	Identifying new pulsar wind nebulae	20	7, 8	6.3
AF324	Frail, D.A. Vasisht, G. Kulkarni, S.R.	NRAO-Socorro Caltech Caltech	Further monitoring of the soft gamma repeater SGR 1806-20	3.6	17, 22	5.0
AG448	Greenhill, L.J. Henkel, C.	CfA MPIFR	Monitoring the acceleration of water megamaser features in NGC 4258	1.3 line	10, 26	8.0
AG498	Giovannini, G. Cotton, B. Feretti, L. Lara, L. Venturi, T.	Bologna NRAO-CV Bologna IAA Bologna	Core flux density monitoring of the radio galaxies 1144+35 and 3C338	3.6, 6, 20	4	1.0
AG515	Gabuzda, D.C. Wardle, J.F.C. Gornich, N. Roberts, D.H.	Lebedev Brandeis Moscow Univ Brandeis	High resolution, deep VLA imaging of a 1 Jy BL Lac sample	6	4, 16	14.0
AG516	Gao, Y. Lo, K.Y. Gruendl, R. Hwang, C.	Illinois Illinois Illinois Academia Sinica	Luminous IR galaxies in a merger sequence	20	27	3.1
AH592	Hjellming, R.M. Rupen, M.P.	NRAO-Socorro NRAO-Socorro	Monitoring galactic black hole x-ray transients	2, 3.6, 6, 20	1,8,13,20,27	7.5
AH593	Hewitt, J.N. Moore, C.B. Haarsma, D.B.	MIT Groningen MIT	Gravitational lens time delays	2, 3.6 w/GP015	2,4,7,10,13, 16,21,25	11.0

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AH604	Haarsma, D.B. Hewitt, J.N. Lehar, J. Burke, B.F.	MIT MIT CfA MIT	Monitoring gravitational lens 0957+561	3.6, 6	25	1.5
AI068	Ishwara-Chandra, C.H. Saikia, D.J. Kapahi, V.K. Subrahmanya, C.R.	NCRA-Pune NCRA-Pune NCRA-Pune NCRA-Pune	Polarization studies of radio galaxies and quasars from Molongo sample	3.6	2	8.0
AK397	Kulkarni, S.R. Frail, D.A.	Caltech NRAO-Socorro	Search for radio counterparts of gamma ray bursters - SAX followup		3, 13, 27	3.5
AK425	Kollgaard, R.I. Ghisellini, G. Maraschi, L. Pesce, J. Sambruna, R. Urry, C.M.	Fermilab Torino Genova STScI STScI STScI	Multifrequency monitoring of blazars	1.3, 2, 3.6, 6, 20	6, 13	2.0
AL380	de Lapparent, V. Roland, J.	IAP IAP	Radio survey of an optically selected sample of galaxies	20	9	3.0
AL397	Longair, M. Best, P. Eales, S. Rawlings, S. Rottgering, H.	Cambridge Cambridge Cardif Oxford Leiden	6C radio galaxies at $z \sim 1$	3.6, 6 w/BB075	24	11.0
AL401	Lacy, M. Ridgway, S. Rawlings, S. King, L.	Oxford Oxford Oxford Oxford	Rotation measures of $z \sim 1$ radio sources	3.6, 6, 20	15	4.0
AL403	Leitch, E.M. Pearson, T.J. Readhead, A.C.S.	Caltech Caltech Caltech	Monitoring of point sources in the OVRO microwave background fields	1.3, 2, 3.6	13	6.4
AL408	Lovell, J.E.J. Reynolds, J.E. Jauncey, D.L.	Tasmania ATNF ATNF	Locating the $z=0.19$ lensing galaxy in PKS 1830-211	2	4	2.0
AL410	Lehar, J. Falcke, H. Barvainis, R. Menten, K. Birkinshaw, M. Elvis, M. Blundell, K.	CfA Maryland Haystack CfA Bristol CfA Oxford	Variability of radio quiet quasars	3.6	7	4.5
AL412	Lara, L. Cotton, W.D. Feretti, L. Giovannini, G. Marcaide, J.M. Venturi, T.	IAA NRAO-CV Bologna Bologna Valencia Bologna	Large angular size radio sources from the NRAO VLA Sky survey	6, 20	18, 21	8.5
AM534	Marti, J. Rodriguez, L.F. Reipurth, B.	Saclay UNAM ESO	Monitoring the high proper motion thermal radio jet in HH 80-81	3.6	1	4.0
AM540	Mirabel, F. Rodriguez, L.F.	Saclay UNAM	Proper motions in the superluminal source GRS 1915+105	3.6	2, 24	5.0
AM552	Magazzu, A. Umana, G. Martin, E.	Catania Noto IAC	Radio survey of new young low-mass stars south of Taurus-Auriga	3.6	18, 20	9.2
AO127	O'Dea, C. Baum, S. DeVries, W. Biretta, J. Macchetto, D.	STScI STScI STScI STScI STScI	High resolution observations of optical synchrotron jets	0.7, 1.3	15	4.0
AP344	Perley, R. Roser, H.-J.	NRAO-Socorro MPIfA	Low frequency observations of Pictor A	90, 400	8, 9	8.0
AP347	Palmer, P. dePater, I. Snyder, L.E.	Chicago Calif-Berkeley Illinois	Observations of OH from Comet Hale Bopp	20 line w/GP015	16, 21	16.0
AS568	Sramek, R. Weiler, K. VanDyk, S. Panagia, N.	NRAO-Socorro NRL Calif.-Berkeley STScI	Properties of radio supernovae	1.3, 2, 3.6, 6, 20	5	2.5
AS597	Strelitski, V. Butler, B. Kogan, L. Palmer, P.	Smithsonian NRAO-Socorro NRAO-Socorro Chicago	Imaging of Comet Hale-Bopp in the 1.35cm H2O line	1.3 line	8	2.0

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AS602	Smette, A. Petitjean, P. Carilli, C. van Gorkom, J.	Kapteyn IAP NRAO-Socorro Columbia	HI imaging of a damped Ly-a system at $z = 0.1$	20 line	1, 2, 3, 4, 6	15.0
AS603	Schiminovich, D. van Gorkom, J.H. vanderHulst, J.M. Wilkinson, A. Oosterloo, T.	Columbia Columbia Kepteyn Manchester ATNF	HI study of the shell galaxy NGC 1210	20 line	1, 2, 3, 4, 6, 8, 9	22.6
AS607	Sarma, A.P. Troland, T.H. Rupen, M.	Kentucky Kentucky NRAO-Socorro	HI Zeeman observations of NGC 512B and NGC 1275	20 line w/BS055	6, 7, 8	12.0
AT202	Trotter, A.S. Moran, J.M. Rodriguez, L.F.	Cfa Cfa UNAM	Anisotropic scattering of NGC 6334B	2, 3.6, 6	2	5.0
AW446	Wilson, A.S. Falcke, H.	Maryland Maryland	Radio outflows and the narrow line region in Seyfert galaxies	2, 3.6	1	5.0
AW451	Wolszczan, A. Frail, D.A.	Penn State NRAO-Socorro	Proper motion of PSR B1257+12: The next epoch	20 line	8	10.5
AY081	Yun, M.S. Rupen, M.	NRAO-Socorro NRAO-Socorro	Radio recombination lines from circumnuclear disks	3.6, 6, 20 line	2	4.0
AY084	Yusef-Zadeh, F.	Northwestern	Continuum observations of G359.1-0.5 and the Snake	6, 20, 90	6	6.5
AZ087	Zhao, J.-H. Goss, M. Yusef-Zadeh, F. Falcke, H. Sjouwerman, L.	Cfa NRAO-Socorro Northwestern Maryland Onsala	Sgr A* and its nearby sources	0.7, 1.3	3	8.0
BB072	Butler, B.J. Beasley, A.J. Wrobel, J.M. Palmer, P.	NRAO-Socorro NRAO-Socorro NRAO-Socorro Chicago	Absorption of bright background sources by the OH in comet Hale-Bopp	20 w/BS055	12	12.5
BB075	Biretta, J. Junor, B.	STScI New Mexico	Search for superluminal motion in the nucleus of M87	20 Single antenna VLBI w/AL397	24	7.9
BG063	Gabuzda, D.C. Cawthorne, T.V. Pushkarev, A.B.	Lebedev Lancashire Moscow Univ.	A 1Jy complete sample of BL Lac objects	2, 3.6, 6	12	2.5
BN005	Nakai, N. Inoue, M. Miyoshi, M. Hagiwara, Y. Diamond, P.	NAO NAO Mitzusawa Graduate University NRAO-Socorro	Water megamaser newly detected in a radio galaxy	1.3 Phased array VLBI	15	11.0
BS055	Shen, Z.-Q. Lo, K.Y. Zhao, J.-H. Ho, P.T.P.	Cfa Illinois Cfa Cfa	Multi-wavelength VLBA imaging of Sgr A*	0.7, 1.3, 2, 3.6, 6 Single antenna VLBI w/AS607, AF321, Adhoc, AD399, BB072, tests, AD399	7, 12, 14	24.4
GM027	Marcaide, J.M. Ros, E. Alberdi, A. Diamond, P.J. Shapiro, I.I. Guirado, J.C. Preston, R.A. Jones, D. Witzel, A. Krichbaum, T.P. Schilizzi, R.T. Mantovani, F. Trigilio, C. Whitney, A.R.	Valencia Valencia ESA-LAEFF NRAO-Socorro Cfa JPL JPL JPL MPIfR MPIfR JIVE Bologna Noto Haystack	Monitoring the expansion of SN 1993J at 6 cm	6 Phased array VLBI	25	10.0
GP015	Polatidis, A.G. Wilkinson, P.N.	Onsala Jodrell Bank	Monitoring the dramatic changes in the nuclear jet of 3C380	6 Single antenna VLBI w/AB819, AH593, AP347	21	11.1
STUDEN			Student Observations			2.0

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
	Staff	NRAO	Baselines, Pointing, Delays		11, 13	47.2
			Maintenance			41.3
			Move/Operations			10.1
			Software			24.6
			General tests			31.8

The average downtime was 2.2%.

The array was scheduled for  
 506.5 hours (75.2% of time) for astronomical programs  
 89.6 hours (13.3% of time) for tests/calibration  
 65.8 hours (9.8% of time) for maintenance  
 Total 661.9 hours (98.2%) scheduled.

Array was in configuration BnA from February 1 through February 10.

Array was in configuration B config. from February 10 through February 28.

Total Number of astronomical programs was 57.

The following independent proposals shared simultaneous observing time (43.5 hours total simultaneous observing):

Projects	Hours
AB819/GP015	4.2
AD399/BS055	3.1
AD399/BS055	3.3
Adhoc/BS055	0.4
AF321/BS055	3.1
AH593/GP015	2.0
AL397/BB075	7.9
AP347/GP015	4.9
AS607/BS055	1.5
BB072/BS055	8.4
Test/BS055	4.5

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AA204	Anglada, G. Rodriguez, L.F.	UNAM UNAM	Proper motions in radio jets from low Luminosity YSOs	3.6	9, 11	10.0
AA207	Attridge, J.M. Homan, D.C. Roberts, D.H. Wardle, J.F.C.	Brandeis Brandeis Brandeis Brandeis	Imaging of a large sample of blazars	3.6, 6, 20	6	6.5
AB804	Beasley, A.J. van Langevelde, H. Diamond, P.J. Claussen, M.J.	NRAO-Socorro JIVE NRAO-Socorro NRAO-Socorro	Water masers in Centaurus A	1.3 line	16, 17, 18	15.0
AB809	Browne, I.W.A. Wilkinson, P.N. Nair, S. Patnaik, A.R. Perley, R.A. Schneider, P. Geiger, B.	Jodrell Bank Jodrell Bank Jodrell Bank MPIfR NRAO-Socorro MPIFA MPIFA	Time delay measurement in 0218+357	2	1, 3, 4, 6, 11, 13	6.0
AB815	Baker, J.C. Hunstead, R.W. Dennett-Thorpe, J. Saunders, R.D.E.	MRAO Sydney MRAO MRAO	Alignment effect at low redshift	6, 20	31	0.6
AC469	Contreras, M.E. Rodriguez, L.F. Tapia, M. Cardini, D. Persi, P.	UNAM UNAM UNAM IAS-Frascati IAS-Frascati	Angular separation of the radio binary CYG 0B2 No. 5	6	4	3.5
AC479	Cox, A.L. Sparke, L.S.	Iowa Wisconsin	Radio continuum survey of polar ring galaxies at 20 cm	20	29	2.0
AC480	Carilli, C. Menten, K. Reid, M. Rupen, M.	NRAO-Socorro Cfa Cfa NRAO-Socorro	Imaging of the 1830-211 molecular absorption system at z=0.88582	0.7, 1.3, 2, 3.6 line	25, 27	14.2
AC481	Carkner, L. Feigelson, E.D. Wilking, B.A.	Penn State Penn State Missouri	Radio observations of x-ray emitting protostars	3.6	19, 20	10.0
AD391	Dougherty, S.M. Williams, P.M. van der Hucht, K.A.	DRAO Edinburgh Utrecht	WR 146	0.7, 1.3, 3.6, 6, 20, 90	5	1.5
AD392	DeBreuck, C. van Breugel, W. Rottgering, H. Miley, G.	Lawrence Livermore Lawrence Livermore Leiden Leiden	Highest redshift radio galaxies	6, 20	6	1.0
AD398	DeBreuck, C. vanBreugel, W. Rottgering, H. Miley, G.	Lawrence Livermore Lawrence Livermore Leiden Leiden	Highest redshift radio galaxies	20	25	12.0
ADHOC	Blundell, K.	Oxford	Adhoc Proposal		9,15	1.9
ADHOC	Hjellming, R.	NRAO-Socorro	Adhoc Proposal		10,13	4.5
ADHOC	Frail, D.	NRAO-Socorro	Adhoc Proposal		12,13,15,22, 26,28	4.7
ADHOC	Carilli, C.	NRAO-Socorro	Adhoc Proposal		15	1.0
ADHOC	Faison, M.	NRAO-Socorro	Adhoc Proposal		28	0.5
AF302	Frail, D.A. Goss, M.	NRAO-Socorro NRAO-Socorro	Confirmation of supernova remnant/molecular cloud interactions	20 line	17	2.0
AF310	Fassnacht, C. Pearson, T. Readhead, T. Myers, S. Browne, I. Wilkinson, P.	Caltech Caltech Caltech Pennsylvania Jodrell Bank Jodrell Bank	VLA monitoring of the gravitational lens system 1608+656	3.6	3,7,11,16,20 ,26,30	7.5
AF312	Felli, M. Taylor, G. Staude, H.J.	Arcetri NRAO-Socorro MPIA	Ionized wind of IRAS 08159-3543	2, 3.6	27	4.0
AF318	Florkowski, D.	USNO	Monitoring the radio emission from the Wolf-Rayet Binary HD 192641	0.7, 2, 6, 20	6	1.0
AF320	Furuya, L. Kawabe, R. Kitamura, Y. Saito, M. Umamoto, T.	Ibaraki Nobeyama ISAS Tokyo Univ Nobeyama	VLA H2O maser observations of class 0 protostar candidates	1.3 line	23	3.0
AF324	Frail, D.A. Vasisht, G. Kulkarni, S.R.	NRAO-Socorro Caltech Caltech	Further monitoring of the soft gamma repeater SGR 1806-20	3.6	30	5.5

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AG448	Greenhill, L.J. Henkel, C.	CfA MPIfR	Monitoring the acceleration of water megamaser features in NGC 4258	1.3 line	20	4.5
AG485	Galama, T.J. deBruyn, A.G. van Paradijs, J. Hanlon, L.	Amsterdam NFRA Amsterdam Dublin	Candidate counterparts to GRB 940301	3.6, 6, 20, 90	31	2.0
AG494	Guedel, M. Mewe, R. Guinan, E.F. Kaastra, J.	Paul Scherrer Utrecht Villanova Utrecht	Early FOV star 47 Cas: Observations with SAX and EUVE	3.6 w/BA024	23	24.1
AG499	Goodrich, R.W.	Keck	Radio axes of broad-absorption line QSOs	3.6	8	2.5
AG501	Gaume, R.A. MacLeod, G.C.	USNO Hartebeesthoek	High mass star formation region G351.78-0.54	1.3, 2, 3.6, 6, 20 line	26, 28	9.5
AG509	Gunn, A.G. Spencer, R.E. Migenes, V. Doyle, J.G.	Jodrell Bank Jodrell Bank NAO Armagh	Eclipse mapping of active binary stars	6	14	20.1
AG513	Guedel, M. Benz, A.O. Guinan, E.F.	Paul Scherrer ETH Villanova	Intermediate age solar type stars	3.6, 6  w/move/op	18, 19, 20, 21	42.5
AG517	Greenhill, L.	CfA	Water maser in NGC 3735	1.3 line	12	1.5
AH592	Hjellming, R.M. Rupen, M.P.	NRAO-Socorro NRAO-Socorro	Monitoring galactic black hole x-ray transients	2, 3.6, 6, 20	6,13,19,20,2 5,27,31	8.8
AH593	Hewitt, J.N. Moore, C.B. Haarsma, D.B.	MIT Groningen MIT	Gravitational lens time delays	2, 3.6	1-7,11-14,18 ,23,26,28,30	18.2
AH594	Herrnstein, J.R. Greenhill, L.J. Moran, J.M. Trotter, A.	CfA CfA CfA CfA	Monitoring the rapidly varying compact continuum source in NGC 4258	1.3, 2, 3.6, 6	5	3.5
AH596	Hagiwara, Y. Kawabe, R. Diamond, P. Kameno, S. Katagiri, S. Nakai, N.	Graduate University Nobeyama NRAO-Socorro Nobeyama Nobeyama Nobeyama	H2O megamaser in NGC 5793	1.3 line	10	10.0
AH603	Harper, G. Brown, A. Bennett, P. Hummel, C. Walder, R.	Colorado Colorado Colorado USRA ETH	Radio modulation of Zeta Aur's orbitally varying HII region	3.6, 6 w/move/op	17	4.0
AH604	Haarsma, D.B. Hewitt, J.N. Lehar, J. Burke, B.F.	MIT MIT CfA MIT	Monitoring gravitational lens 0957+561	3.6, 6	10	1.0
A1066	Iverson, R.J. Eyres, S.P.S. Davis, R.J. Kenny, H.T. Bode, M.F. Lloyd, H.M.	Edinburgh Keele Jodrell Bank Canadian Military John Moores John Moores	VLA/Merlin imaging of quiescent symbiotic binaries	6	5	1.0
A1067	Irwin, J. Widrow, L.	Queen's Queen's	Possible foreground absorption from NGC 3079 in front of quasar 0957+561	20 line	2	12.0
AJ256	Jones, D.L. Sanchez, J.G. Preston, R.A. Weissman, P.R.	JPL JPL JPL JPL	Search for radio emission from nearby star GL 710	3.6	21	4.0
AK397	Kulkarni, S.R. Frail, D.A.	Caltech NRAO-Socorro	Search for radio counterparts of gamma ray bursters - SAX followup		13,26,30	3.5
AK425	Kollgaard, R.I. Ghisellini, G. Maraschi, L. Pesce, J. Sambruna, R. Urry, C.M.	Fermilab Torino Genova STScI STScI STScI	Multifrequency monitoring of blazars	1.3, 2, 3.6, 6, 20	5, 6, 12, 26	4.0
AK437	Karovska, M. Mattei, J. Carilli, C.	CfA AAVSO NRAO-Socorro	Possible jet formation in the CH Cyg symbiotic system	2, 3.6, 20	5	2.0
AK440	Kurtz, S. Carral, P. Rodriguez, L.F. Hofner, P. DePree, C.	UNAM Guanajuato UNAM NAIC Agnes Scott	Exciting sources of water masers near cometary HII regions	1.3, 2	31	2.0



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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AL400	Ledlow, M. Owen, F. Keel, W.	New Mexico State NRAO-Socorro Alabama	A powerful radio galaxy in a spiral host	3.6, 20	1	2.0
AL403	Leitch, E.M. Pearson, T.J. Readhead, A.C.S.	Caltech Caltech Caltech	Monitoring of point sources in the OVRO microwave background fields	1.3, 2, 3.6	16	5.2
AL410	Lehar, J. Falcke, H. Barvainis, R. Menten, K. Birkinshaw, M. Elvis, M. Blundell, K.	Cfa Maryland Haystack Cfa Bristol Cfa Oxford	Variability of radio quiet quasars	3.6	17	3.0
AMS40	Mirabel, F. Rodriguez, L.F.	Saclay UNAM	Proper motions in the superluminal source GRS 1915+105	3.6	13	2.0
AMS43	Menten, K.M. Reid, M.J.	Cfa Cfa	Resolving the power source in the Orion BN/KL region	0.7, 3.6 line	11	10.5
AN074	Neff, S.G. Ulvestad, J.S. Smith, D.A. Fanelli, M.N.	NASA-GSFC NRAO-Socorro NASA-GSFC NASA-GSFC	HII regions and SNR in NGC 4038/9 ("the Antennae")	3.6, 6	30	8.5
AP334	Perley, R.	NRAO-Socorro	VLA Observations of Cygnus A at 43 GHz	7	15	1.5
AR277	Rodriguez, L. Gomez, Y. Canto, J. Lizano, S. Escalante, V.	UNAM UNAM UNAM UNAM UNAM	First images of protoplanetary disks	0.7, 3.6	4, 5, 7, 10, 12	59.5
AR362	Reid, M.J. Menten, K.M.	Cfa Cfa	VLA Observations of the 43 GHz SiO masers and stellar size of red giants	0.7 line	6, 11	8.0
AR380	Richards, E. Saslaw, B.	Virginia Virginia	Core of 3C 435	3.6	19	1.5
AS568	Sramek, R. Weiler, K. VanDyk, S. Panagia, N.	NRAO-Socorro NRL Calif.-Berkeley STScI	Properties of radio supernovae	1.3, 2, 3.6, 6, 20 w/move/op	2,9,17,22,30 ,31	19.6
AS595	Schoenmakers, A.P. deBruyn, A.G. Rottgering, H.	Utrecht NFRA Leiden	1.4 GHz observations of the enigmatic radio source 1834+620	20	3	2.0
AS597	Strelitski, V. Butler, B. Kogan, L. Palmer, P.	Smithsonian NRAO-Socorro NRAO-Socorro Chicago	Imaging of Comet Hale-Bopp in the 1.35cm H2O line	1.3 line	6	4.0
AS598	Serjeant, S. Lacy, M. King, L. Rawlings, S. Blundell, K.	Imperial College Oxford Oxford Oxford Oxford	Are damped Ly absorbers gravitational lenses?	1.3, 2	13	4.0
AS601	Slee, O.B. Roy, A.L.	ATNF NRAO-Socorro	Structure of a steep spectrum source near the Centre of Abell 4038	20	26	8.0
AS602	Smette, A. Petitjean, P. Carilli, C. van Gorkom, J.	Kapteyn IAP-Paris NRAO-Socorro Columbia	HI imaging of a damped Ly-a system at z = 0.1	20 line	26, 27, 28, 30, 31	14.0
AS603	Schiminovich, D. van Gorkom, J. vanderHulst, J.M. Wilkinson, A. Oosterloo, T.	Columbia Columbia Kapteyn Manchester ATNF	HI study of the shell galaxy NGC 1210	20 line	27, 28, 30, 31	12.5
AU071	Umana, G. Leone, F. Trigilio, C.	Noto Catania Noto	Monitoring the radio emission of B Lyrae	2, 6	28, 31	2.0
AW230	Wrobel, J.	NRAO-Socorro	International Monitoring of the Seyfert NGC 5548	3.5	4	0.8
AW362	White, S.	Maryland	The stellar activity cycle on active stars	3.6, 6, 20 w/BA024	24, 25	3.0
AW419	Watson, A. Cox, A.L. Wilcots, E.	Lowell Iowa Wisconsin	Sub-arcsecond imaging of nuclear starbursts at 2cm and 6cm	2, 6	11	2.0
AW457	White, S.M. Lim, J.	Maryland Academia Sinica	Quiescent radio emission in x-ray selected nearby late type stars	3.6, 20	13, 17	10.0
AW460	Wootten, A. Claussen, M. Wilking, B. Meehan, L.	NRAO-CV NRAO-Socorro Missouri Missouri	Origin of water masers toward low mass young stellar objects	1.3 line	30	1.5

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Progm	Observer	Affiliation	Program Title	Bands cm	Observing Date	Sched Hours
AY074	Yun, M.S.	NRAO-Socorro	Spin temperature of HI tidal debris in M81 group	20 line	19	2.5
AY081	Yun, M.S. Rupen, M.	NRAO-Socorro NRAO-Socorro	Radio recombination lines from circumnuclear disks	3.6, 6, 20 line	26	8.0
BA024	Attridge, J.M. Homan, D.C. Roberts, D.H. Wardle, J.F.C.	Brandeis Brandeis Brandeis Brandeis	Deep VLBA imaging of four blazars with distorted structures	6 single antenna VLBI w/AG494, AW362	20, 23	26.3
BB069	Beasley, A.J.	NRAO-Socorro	FK Comae stars	3.6, 6 line	3	1.0
BD037	Denn, G. Mutel, R.	Iowa Iowa	Polarized VLB jet of BL Lac	1.3, 2, 6	3	2.0
BG062	Greenhill, L.J. Herrnstein, J.R. Trotter, A.S. Moran, J.M. DePree, C. Cecil, G.	CfA CfA CfA CfA Agnes Scott North Carolina	Jet structure in NGC 4258	20 Phased array VLBI	6	12.0
BL040	Liljestrom, T. Leppanen, K. Diamond, P. Gwinn, C.	Helsinki JIVE NRAO-Socorro Calif.-Santa Barbara	High temperature maser sources W44, W51M, W51N, W75N	1.3 line	5	1.8
BR043	Roy, A.L. Claussen, M.J. Diamond, P.J. Wrobel, J.M. DePree, C. Greenhill, L.J. Herrnstein, J.R. Moran, J.M.	NRAO-Socorro NRAO-Socorro NRAO-Socorro NRAO-Socorro Agnes Scott CfA CfA CfA	Nonthermal nucleus of NGC 4258	2, 6 Phased array VLBI	3	12.2
BR047	Ratner, M.I. Bartel, N. Lebach, D.E. Lestrade, J-F. Shapiro, I.I.	CfA York U. CfA Meudon CfA	Astrometry of IM Peg for gravity probe-b mission	3.6 Phased array VLBI	16, 18	23.8
	Staff	NRAO	Baselines, Pointing, Delays Maintenance Move/Operations New Years Shutdown Software General tests		1	51.8 54.5 29.4 16.0 31.8 41.3

The average downtime was 4.0%.

The array was scheduled for  
537.9 hours (72.1% of time) for astronomical programs  
107.8 hours (14.5% of time) for tests/calibration  
84.3 hours (11.3% of time) for maintenance  
Total 730.0 hours (97.9%) scheduled.

Array was in configuration A from January 1 through January 15.

Array was in configuration BnA config. from January 15 through January 31.

Total Number of astronomical programs was 72.

The following independent proposals shared simultaneous observing time (53.6 hours total simultaneous observing):

Projects	Hours
Adhoc/Software	2.1
AF324/Test	5.5
AG494/BA024	24.2
AG513/move/op	6.8
AG513/move/op	2.1
AH603/move/op	2.6
AS568/move/op	6.0
AW362/BA024	0.1
Software/test	4.0
Tests/BR043	0.3