

Nimesh A. Patel

CONTACT INFORMATION Submillimeter Array office: +1 617 496 7649
Harvard-Smithsonian Center for Astrophysics mobile: +1 617 669 5665
60 Garden Street, MS 78, Cambridge, MA 02138, USA e-mail: npatel@cfa.harvard.edu

RESEARCH INTERESTS Molecular astrophysics, evolved stars, star-formation, astrophysical masers, interstellar medium, molecular clouds, telescope control software, radio interferometry, antenna measurements: pointing, holography and metrology systems.

EDUCATION 1984—1990 Ph.D., Physics & Radio Astronomy Raman Research Institute,
Indian Institute of Science, India
1982—1984 M.S., Physics University of Bombay, India
1979—1982 B.S., Physics University of Bombay, India

EMPLOYMENT **1996—present** Astrophysicist & Senior Engineer
Harvard-Smithsonian Center for Astrophysics
Submillimeter Array
1994—1996 Senior Research Fellow
Harvard-Smithsonian Center for Astrophysics
1991—1994 Postdoctoral Research Fellow
Five College Radio Astronomy Observatory
University of Massachusetts, Amherst.

PROFESSIONAL AFFILIATIONS

- American Astronomical Society
- International Astronomical Union
- International Union of Radio Science.

PROFESSIONAL ACTIVITIES

- Member of the Smithsonian Astrophysical Observatory Council, 2011–2014.
- Referee for the Astrophysical Journal and other peer reviewed journals.
- Chairman of the Time Allocation Committee for the Submillimeter Array, 2009–2011
- Served on the Time Allocation Committee for the National Radio Astronomy Observatory, 2009, 2010.
- Editor of the Submillimeter Array Newsletter, 2005–2011.

TEACHING Instructor for the Laboratory Astrophysics course (Spring, AY 191) for Harvard College students, 2006–present.

REFEREED PUBLICATIONS

1. Growth of carbon chains in IRC+10216 mapped with ALMA
Agundez, M., Cernicharo, J., Quintana-Lacaci, G., et al.
A&A, 2017, 601, 4
2. An observational study of dust nucleation in Mira (o Ceti). II. Titanium oxides are negligible for nucleation at high temperatures
Kaminski, T., Muller, H., Schmidt, M., et al.
A&A, 2017, 599, 59
3. Search for aluminium monoxide in the winds of oxygen-rich AGB stars
De Beck, E., Decin, L., Ramstedt, S., et al.
A&A, 2017, 598, 53
4. SMA observations towards the compact, short-lived bipolar water maser outflow in the LkH?234 region
Girart, J., Torrelles, J., Estalella, R., et al.
MNRAS, 2016, 462, 352

5. An observational study of dust nucleation in Mira (o Ceti). I. Variable features of AlO and other Al-bearing species
Kaminski, T., Wong, K., Schmidt, M., et al.
A&A, 2016, 592, 42
6. SWARM: A 32 GHz Correlator and VLBI Beamformer for the Submillimeter Array
Primiani, R., Young, K., Young, A., Patel, N.A., et al.
JAI, 2016, 541006
7. First-generation science cases for ground-based terahertz telescopes
Hirashita, H., Koch, P., Matsushita, S., et al.
PASJ, 2016, 68, 1
8. An Extremely High-velocity Bipolar Outflow in the Pre-planetary Nebula IRAS 08005-2356
Sahai, R., Patel, N.A.
ApJ, 2015, 810, L8
9. Discovery of SiCSi in IRC+10216: A missing link between gas and dust carriers of Si and C bonds
Cernicharo, J., McCarthy, M., Gottlieb, C.A., Agúndez, M., et al.
ApJ, 2015, 806, 3
10. Nuclear ashes and outflow in the eruptive star Nova Vul 1670
Kamiński, T., Menten, K. M., Tylanda, R., Hajduk, M., Patel, N. A., Kraus, A.
Nature, 2015, 520, 322
11. Vibrationally excited C₄H
Cooksy, A., L., Gottlieb, C. A., Killian, T. C., Thaddeus, P., Patel, N. A., Young, K. H., McCarthy, M. C.
ApJS, 2015, 216, 30
12. Greenland telescope project: Direct confirmation of black hole with submillimeter VLBI
Inoue, M., Algaba-Marcos, J., Asada, K., Blundell, R., et al.
Radio Science, 2014, 49, 564
13. A very young, compact bipolar H₂O maser outflow in the intermediate-mass star-forming LkH_α 234 region
Torrelles, J. M., Curiel, S., Estalella, R., Anglada, G., Gómez, J., Cantó, J., Patel, N. A., et al.
MNRAS, 2014, 442, 148
14. A spider-like outflow in Barnard 5-IRS1: the transition from a collimated jet to a wide-angle outflow?
Zapata, L., Arce, H. G., Brassfield, E., Palau, A., Patel, N. A., Pineda, J. E.
MNRAS, 2014, 441, 3696
15. Hot Core, Outflows, and Magnetic Fields in W43-MM1 (G30.79 FIR 10)
Sridharan, T. K., Rao, R., Qiu, K., Cortes, P., Li, H., Pillai, T., Patel, N. A., Zhang, Q.
ApJ, 2014, 783, L31
16. Submillimeter polarization and magnetic field properties in the envelopes of protoplanetary nebulae CRL 618 and OH 231.8+4.2
Sabin, L., Zhang, Q., Zijlstra, A. A., Patel, N. A., Vázquez, R., Zauderer, B. A., Contreras, M. E., Guillén, P. F.
MNRAS, 2014, 438, 1794
17. Multi-epoch VLBA H₂O maser observations towards the massive YSOs AFGL 2591 VLA 2 and VLA 3
Torrelles, J. M., Trinidad, M. A., Curiel, S., Estalella, R., Patel, N. A., Gómez, J. F., Anglada, G., Carrasco-González, C., Cantó, J., Raga, A., Rodríguez, L. F.
MNRAS, 2014, 437, 3803
18. An Interferometric Spectral Line and Imaging Survey of VY Canis Majoris in the 345 GHz Band
Kamiński, T., Gottlieb, C. A., Young, K. H., Menten, K. M., Patel, N. A.
ApJS, 2013, 209, 38
19. PO and PN in the wind of the oxygen-rich AGB star IK Tauri
De Beck, E., Kamiński, T., Patel, N. A., Young, K. H., Gottlieb, C. A., Menten, K. M., Decin, L.
A&A, 2013, 558, 132

20. The Digital Motion Control System for the Submillimeter Array Antennas
Hunter, T. R., Wilson, R. W., Kimberk, R., Leiker, P. S., Patel, N. A., Blundell, R., Christensen, R. D., Diven, A. R., Maute, J., Plante, R. J *JAI*, 2013, 250002
21. Formation and evolution of the water maser outflow event in AFGL 2591 VLA 3-N
Trinidad, M., Curiel, S., Estalella, R., Cantó, J., Raga, A., Torrelles, J., Patel, N. A., Gómez, F., Anglada, G., Carrasco-González, C., Rodriguez, L.
MNRAS, 2013, 430, 1309
22. CO J = 2-1 Emission from Evolved Stars in the Galactic Bulge
Sargent, B.A., Patel, N. A., Meixner, M., Otsuka, M., Riebel, D., Srinivasan, S.
ApJ, 2013, 765, 20
23. Pure rotational spectra of TiO and TiO₂ in VY Canis Majoris
Kamiński, T., Gottlieb, C. A., Menten, K. M., Patel, N. A., Young, K. H., Bruenken, S., Muller, H., McCarthy, M., Winters, J., Decin L.
A&A, 2013, 551, 113
24. A New Radio Recombination Line Maser Object toward the Mon R2 HII Region
Jiménez-Serra, I., Báez-Rubio, A., Rivilla, V. M., Martín-Pintado, J., Zhang Q., Dierickx, M., Patel, N. A.
ApJ, 2013, 746, L4
25. A Keplerian Circumbinary Disk around the Protostellar System L1551 NE
Takakuwa, Shigehisa; Saito, Masao; Lim, Jeremy; Saigo, Kazuya; Sridharan, T. K.; Patel, Nimesh A.
ApJ, 2012, 754, 52
26. Mapping the Linearly Polarized Spectral Line Emission around the Evolved Star IRC+10216
Girart, J. M.; Patel, N.; Vlemmings, W. H. T.; Rao, Ramprasad
ApJL, 2012, 751, 20
27. Arcsecond Resolution Mapping of Sulfur Dioxide Emission in the Circumstellar Envelope of VY Canis Majoris
Fu, Roger R.; Moullet, Arielle; Patel, Nimesh A.; Biersteker, John; Derose, Kimberly L.; Young, Kenneth H.
ApJ, 2012, 746, 42
28. Millimeter Multiplicity in DR21(OH): Outflows, Molecular Cores, and Envelopes
Zapata, Luis A.; Loinard, Laurent; Su, Y.-N.; Rodriguez, Luis F.; Menten, Karl M.; Patel, Nimesh; Galván-Madrid, R.
ApJ, 2012, 744, 86
29. Dust Properties and Disk Structure of Evolved Protoplanetary Disks in Cep OB2: Grain Growth, Settling, Gas and Dust Mass, and Inside-out Evolution
Sicilia-Aguilar, A.; Henning, T.; Dullemond, C. P.; Patel, N. A.; Juhasz, A; Bouwman, J; Sturm, B.
ApJ, 2011, 742, 39
30. The Rotational Spectra of 29SiC₂ and 30SiC₂
Kokkin, D. L., Bruenken, S., Young, K. H., Patel, N. A., Gottlieb, C. A., Thaddeus, P., McCarthy, M. C.
ApJS, 2011, 196, 17
31. A rotating molecular disk toward IRAS 18162-2048, the exciting source of HH 80-81
Fernandez-Lopez, M., Girart, J., Curiel, S., Gomez, Y., Ho, P., Patel, N.
AJ, 2011, 142, 97
32. The Birth of a Relativistic Outflow in the Unusual γ -ray Transient Swift J164449.3+573451
Zauderer, B. A.; Berger, E.; Soderberg, A. M.; Loeb, A.; Narayan, R.; Frail, D. A.; Petitpas, G. R.; Brunthaler, A.; Chornock, R.; Carpenter, J. M.; Pooley, G. G.; Mooley, K.; Kulkarni, S. R.; Margutti, R.; Fox, D. B.; Nakar, E.; Patel, N. A.; Volgenau, N. H.; Culverhouse, T. L.; Bietenholz, M. F.; Rupen, M. P.; Max-Moerbeck, W.; Readhead, A. C. S.; Richards, J.; Shepherd, M.; Storm, S.; Hull, C. L. H.
Nature, 2011, 476, 425.
33. Extremely Broad Radio Recombination Maser Lines Toward the High-velocity Ionized Jet in Cepheus A HW2
Jimenez-Serra, I.; Martín-Pintado, J.; Baez-Rubio, A.; Patel, N.; Thum, C.
2011, *ApJ*, 732, 27.

34. An Interferometric Spectral-line Survey of IRC+10216 in the 345 GHz Band
Patel, N. A.; Young, K. H.; Gottlieb, C. A.; Thaddeus, P.; Wilson, R. W.; Menten, K. M.; Reid, M. J.; McCarthy, M. C.; Cernicharo, J.; He, J.; Bruenken, S.; Trung, Dinh-V.; Keto, E.
2011, ApJSS, 193, 17.
35. Millimeter and Submillimeter High Angular Resolution Interferometric Observations: Dust in the Heart of IRAS 18162-2048
Fernandez-Lopez, M.; Curiel, S.; Girart, J. M.; Ho, P. T. P.; Patel, N.; Gomez, Y.
2011, AJ, 141, 72.
36. Measurement of the Distance and Proper Motions of the H₂O Masers in the Young Planetary Nebula K 3-35
Tafuya, D.; Imai, H.; Gomez, Y.; Torrelles, J. M.; Patel, N. A.; Anglada, G.; Miranda, L. F.; Honma, M.; Hirota, T.; Miyaji, T.
2011, PASJ, 63, 71.
37. A wide-angle outflow with the simultaneous presence of a high-velocity jet in the high-mass Cepheus A HW2 system
Torrelles, J. M.; Patel, N. A.; Curiel, S.; Estalella, R.; Gomez, J. F.; Rodriguez, L. F.; Canto, J.; Anglada, G.; Vlemmings, W.; Garay, G.; Raga, A. C.; Ho, P. T. P.
2011, MNRAS, 410, 627.
38. Discovery of an Expanding Molecular Bubble in Orion BN/KL
Zapata, L. A.; Loinard, L.; Schmid-Burgk, J.; Rodriguez, L. F.; Ho, P. T. P.; Patel, N. A.
2011, ApJ, 726, 12.
39. Statistical Analysis of Water Masers in Star-forming Regions: Cepheus A and W75 N
Uscanga, L.; Canto, J.; Gomez, J. F.; Anglada, G.; Torrelles, J. M.; Patel, N. A.; Raga, A. C.; Curiel, S.
2010, ApJ, 715, 132.
40. Radio Continuum Emission and Water Masers Toward CB 54
de Gregorio-Monsalvo, I.; Gomez, J. F.; Anglada, G.; Torrelles, J. M.; Kuiper, T. B. H.; Suarez, O.; Patel, N. A.
2009, AJ, 137, 5080.
41. The Magnetic Field Toward the Young Planetary Nebula K 3-35
Gomez, Y.; Tafuya, D.; Anglada, G.; Miranda, L. F.; Torrelles, J. M.; Patel, N. A.; Hernandez, R. Franco
2009, ApJ, 695, 930.
42. Submillimeter Narrow Emission Lines from the Inner Envelope of IRC+10216
Patel, N. A.; Young, K. H.; Bruenken, S.; Wilson, R. W.; Thaddeus, P.; Menten, K. M.; Reid, M.; McCarthy, M. C.; Dinh-V-Trung; Gottlieb, C. A.; Hedden, A.
2009, ApJ, 692, 1205
43. A Collimated, Ionized Bipolar Structure and a High Density Torus in the Planetary Nebula IRAS 17347-3139
Tafuya, D.; Gomez, Y.; Patel, N. A.; Torrelles, J. M.; Gomez, J. F.; Anglada, G.; Miranda, L. F.; de Gregorio-Monsalvo, I.
2009, ApJ, 691, 611.
44. Infall and Outflow of Molecular Gas in Sgr B2
Qin, Sheng-Li; Zhao, Jun-Hui; Moran, James M.; Marrone, Daniel P.; Patel, Nimesh A.; Wang, Jun-Jie; Liu, Sheng-Yuan; Kuan, Yi-Jehng
ApJ (2008), 677,353
45. The Rapid Outbursting Star GM Cep: An EXor in Tr 37?
Sicilia-Aguilar, Aurora; Merin, Bruno; Hormuth, Felix; Abraham, Peter; Henning, Thomas; Kun, Mria; Patel, Nimesh et al.
ApJ (2008), 673, 382
46. The massive expanding molecular torus in the planetary nebula NGC 6302
Peretto, N.; Fuller, G.; Zijlstra, A.; Patel, N.
A&A (2007), 473, 207
47. The Circumstellar Structure and Excitation Effects around the Massive Protostar Cepheus A HW2.
Torrelles, J. M.; Patel, N. A.; Curiel, S.; Ho, P. T. P.; Garay, G.; Rodriguez, L. F.
ApJ (2007), 666, 37

48. Submillimeter Array Observations of 321 GHz Water Maser Emission in Cepheus A
Patel, N. A.; Curiel, S.; Zhang, Q.; Sridharan, T. K.; Ho, P. T. P.; Torrelles, J. M.
ApJ (2007), 658, 55
49. A Massive Bipolar Outflow and a Dusty Torus with Large Grains in the Preplanetary Nebula
IRAS 22036+5306
Sahai, R.; Young, K.; Patel, N. A.; Snchez Contreras, C.; Morris, M
ApJ (2006), 653, 1241
50. High-Resolution Observations of Water Masers in Bok Globules
de Gregorio-Monsalvo, I., Gomez, J. F., Suarez, O., Kuiper, T. B. H., Anglada, G., Patel, N.
A., Torrelles, J. M.
AJ (2006), 132, 2584
51. Interferometric Observations toward the High-Mass Young Stellar Object IRAS 23139+5939:
Radio Continuum and Water Maser Emission
Trinidad, M., Curiel, S., Torrelles, J., Rodriguez, L. F., Migenes, V., Patel, N.A.
AJ (2006), 132, 1918
52. The Distribution of SiO in the Circumstellar Envelope around IRC +10216
Schoier, F., Fong, D., Olofsson, H. Zhang, Q., Patel, N.A.
ApJ (2006), 649,965
53. Large Proper Motions in the Jet of the High-mass YSO Cepheus A HW2
Curiel S., Ho P. T. P., Patel N. A., Torrelles J. M., Rodriguez L. F., Trinidad M. A., Canto J.
Hernandez L., Gomez J. F., Garay G. & Anglada G.
ApJ (2006), 638,878
54. A 1 AU Expanding Water Maser Circular Ring in the W75 N(B)-VLA 2 Shell
Uscanga, L., Canto, J., Curiel, S., Anglada, G., Torrelles, J. Patel, N. A., Gomez, J. F., Raga,
A.
ApJ (2005), 634, 468
55. Very Large Array Simultaneous 1.3 cm Continuum and H₂O Maser Observations toward IRAS
20126+4104
Trinidad, M. A., Curiel, S., Migenes, V., Patel, N.A., Torrelles, J. M., Gomez, J. F., Rodriguez,
L. F., Ho, P. T. P., Canto, J.
AJ (2005), 130, 2006
56. A Disk of Dust and Molecular Gas around a High-mass Protostar
Patel N. A., Curiel S., Sridharan T. K., Zhang Q., Hunter T. R., Ho P. T. P., Torrelles J. M.,
Moran J. M., Gomez J. F. & Anglada G.
Nature, 2005, 437,109
57. VLBI Water Maser Proper Motion Measurements in Star-forming Regions
Torrelles J. M, Patel N. A., Gomez J. F., Anglada G. & Uscanga L.
Astrophysics and Space Science (2005), 295, 53-63.
58. Submillimeter Array Observations of CS J = 14-13 Emission from the Evolved Star IRC +10216
Young,K.H. Hunter,T.R. Wilner,D.J. Gurwell,M.A. Barrett,J.W. Blundell,R. Christensen,R.
Fong,D. Hirano,N. Ho,P.T.P. Liu,S.Y. Lo,K.Y. Martin,R. Matsushita,S. Moran,J.M. Ohashi,N.
Papa,D.C. Patel,N. Patt,F. Peck,A. Qi,C. Saito,M. Schinckel,A. Shinnaga,H. Sridharan,T.K.
Takakuwa,S. Tong,C.E. Trung,D.V.
Astrophysical Journal Letters (2004), 616,51
59. High-Velocity Bipolar Outflow and Disklike Envelope in the Carbon Star V Hydrae
Hirano,N., Shinnaga,H., Trung D. V., Fong,D.; KetoE., PatelN.A., Qi C., Young,K., ZhangQ,
Zhao,J.
Astrophysical Journal Letters (2004), 616,43
60. Multiple Outflows in the LkHalpha 234 Region
Trinidad, M.A., Curiel, S., Torrelles, J.M., Rodriguez, L.F., Canto, J., Gomez, J.F., Patel, N.
A., Ho, P.T.P.
Astrophysical Journal (2004), 613,416.
61. Evidence for Evolution of the Outflow Collimation in Very Young Stellar Objects
Torrelles, J.M., Patel, N.A., Anglada, G. , Gomez, J.F. , Ho, P.T.P. , Lara, L., Alberdi, A.,
Canto, J., Curiel, S.,Garay, G., and Rodriguez, L.F.
Astrophysical Journal Letters (2003), 598,115.

62. Observations of Water Masers and Radio Continuum Emission in AFGL 2591
Trinidad,M.A., Curiel,S., Canto,J., D'Alessio,P., Rodriguez,L. F., Torrelles,J.M., Gomez,J.F., Patel,N. A., Ho,P.T.P.
Astrophysical Journal (2003), 589,386.
63. Detection of a Candidate for the Exciting Source of the Expanding Water Maser Bubble in Cepheus A
Curiel, S., Trinidad, M. A., Canto, J., Rodriguez, L. F., Torrelles, J. M., Ho, P. T. P. , Patel N. A., Greenhill, L., Gomez, J., Garay, G., Hernandez, L., Contreras, M. E., Anglada, G.
Astrophysical Journal (2002), 564,35.
64. Discovery of Linear “Building Blocks” of Water Masers Shaping Linear/Arcuate Microstructures in Cepheus A
Torrelles,J.M., Patel N.A., Gomez,J.F., Ho, P.T.P.,Rodriguez, L.F., Anglada, G., Garay, G., Greenhill, L., Curiel, S., Canto, J.,
Astrophysical Journal (2001), 560,853.
65. Spherical episodic ejection of material from a Young Star
Torrelles, J.M., Patel N. A., Gomez,J.F., Ho,P.T.P., Rodriguez,L.F., Anglada,G., Garay,G., Greenhill,L., Curiel,S., Canto,J.
Nature, (2001), 411, 277.
66. Proper Motion of Water Masers Associated with IRAS 21391+5802: Bipolar Outflow and an AU-Scale Dusty Circumstellar Shell
Patel N. A., Greenhill, L., Herrnstein, J., Zhang, Q., Moran, J.M., Ho, P.T.P., Goldsmith, P.F.
Astrophysical Journal (2000), 538, 268.
67. Ammonia observations of the nearby molecular cloud MBM 12
Gomez, J.F., Trapero, J., Pascual, S., Patel N.A., Morales C., Torrelles J.M.
MNRAS, (2000), 314,743.
68. Origin and evolution of the Cepheus Bubble
Patel N.A., Goldsmith, P.F., Heyer, M., Snell, R., Pratap, P.
Astrophysical Journal, (1998), 507,241.
69. HI “Tails” from Cometary Globules in IC1396
Moriarty-Schieven, G., Xie, T., Patel N.A.
Astrophysical Journal, (1996), 463,L105.
70. The Dense Core, Outflow, and Jet in L810: High-Resolution Haystack Observations at λ 3mm
Clemens, D.P., Berkovitch, M., Yun, J.L., Patel N.A., Taoling Xie
Astrophysical Journal (1996), 457,743.
71. The large scale structure and kinematics of IC1396
Patel, N. A., Goldsmith P. F., Snell R., Hezel T. , Xie, T
Astrophysical Journal (1995), 447, 721.
72. Circular and Linear polarization of SiO maser in VY CMa
McIntosh, G.C., Predmore, C.R., Patel, N.A.
Astrophysical Journal (1994), 428,L29.
73. Cometary globules in the southeast quadrant of the Rosette nebula
Patel, N.A., Xie, T., Goldsmith, P.F.
Astrophysical Journal (1993), 413, 593.
74. Four CO outflows and dense gas in the dark cloud complex near IC5146
Dobashi, K., Onishi, T., Iwata, T., Nagahama, T., Patel, N.A., Snell, R., Fukui, Y.
Astronomical Journal (1993), 105,1487.
75. A well shaped bipolar outflow in MonR2
Xie, T., Goldsmith, P., Patel, N.A.
Astrophysical Journal Letters (1993), 419,L33
76. SiO Masers and the Intrinsic properties of Mira variables
Patel, N.A., Anthony J., Ganesan, R.
Journal of Astrophysics and Astronomy (1992), 13, 241.

1. A Brief Update on the CMZoom Survey
Battersby, C., Keto, E., Zhang, Q., et al.
IAUS, 2017, 322, 90
2. Control and monitoring software for the Greenland Telescope
Patel, N.A., Nishioka, H., Huang, C-W.
SPIE, 2016, 9913,8
3. The Greenland Telescope: antenna retrofit status and future plans
Raffin, P., Ho, P.T.P., Asada, K., Blundell, R., et al.
SPIE, 2016, 9906
4. Water Masers Outburst in the Massive Stellar Cluster W49A
Kramer, B., Menten, K., Kaminski, T., et al.
IAUGA, 2015, 2255222
5. Greenland Telescope: Imaging Black Hole Shadow and THz Astronomy
Matsushita, S., Asada, K., Blundell, R., et al.
IAUGA, 2015, 2251138
6. Water Masers in W49N
Kramer, B., Menten, K., Kaminski, T., Patel, N.A., et al.
IAUGA, 2015, 2249600
7. SMA Spectral Line Imaging Survey at 279-355 GHz of the Oxygen-rich AGB star IK Tau
De Beck, E., Kamiński, T., Menten, K. M., Patel, N. A., Young, K. H., Gottlieb, C. A.
2015, ASPC, 497, 73
8. Triggered star-formation in the bright rimmed globule IC1396A
Patel, N. A., Sicilia-Aguilar, A. Goldsmith, P.
2015, AAS2251103P, Seattle
9. The SMA Legacy Survey of the Central Molecular Zone
Battersby, C., Keto, E., Zhang, Q., et al.
2015, AAS 22511005B, Seattle
10. Magnetic fields in Proto Planetary Nebulae
Sabin, L., Zhang, Q., Zijlstra, A., Patel, N. et al.
2014, IAU symp., 302, 398
11. Instrumentation for single-dish observations with the Greenland telescope
Grimes, P., Asada, K., Blundell, R. et al.
2014, SPIE, 91531V
12. The Greenland telescope: antenna status and future plans
Raffin, P., Algaba-Marcosa, J., Asada, K., Blundell, R., et al.
2014, SPIE, 91450G
13. A low-cost 21 cm horn-antenna radio telescope for education and outreach
Patel, N. A., Patel, R. N., Kimberk R., et al.
2014, AAS, 22441501P, Boston
14. Dust polarization and magnetic field geometry in Proto Planetary Nebulae
Sabin, L., Zhang, Q., Zijlstra, A., Patel, N. A., et al.
2014, Asymmetrical Planetary Nebulae VI conference
15. Radio interferometric detection of TiO and TiO₂ in VY CMa: “seeds” of inorganic dust formation
Bruenken, S., Muller, H., Kaminski, T., et al.
2013, 68th International symposium on molecular spectroscopy, June 2013, Ohio State University
16. Dust-forming molecules in VY CMa and Betelgeuse
Kaminski, T., Gottlieb, C., Schmidt, M., Patel, N. A., Young, K. H. et al.
2013, Betelgeuse Workshop 2012, EAS pub series, 60, 191
17. Probing the dust formation zone in IRC+10216 with the SMA
Patel, N. A., Gottlieb, C., Young, K. H.
2013, Proc. of the Life Cycle of Dust in the Universe, Taipei, Taiwan

18. Observing dust-forming refractory oxides AlO, TiO, and TiO₂ in circumstellar gas around evolved stars
Kaminski, T., Menten, K. M., Schmidt, M., et al.
2013, Proc. of the Life Cycle of Dust in the Universe, Taipei, Taiwan
19. VLBI multi-epoch water maser observations toward massive protostars
Torrelles, Jos M.; Gmez, Jos F.; Patel, Nimesh A.; Curiel, Salvador; Anglada, Guillem; Estalella, Robert
2012, Proceedings of IAU Symposium No. 287, Cosmic Masers- from OH to Ho
20. Water maser kinematics in massive star-forming regions: Cepheus A and W75N
Torrelles, J. M.; Patel, N. A.; Curiel, S.; Gmez, J. F.; Anglada, G.; Estalella, R.
2012, Boletín de la Asociación Argentina de Astronomía (BAAA), Vol. 54, AAA-SOCHIAS meeting (September 17-21, 2011)
21. The Interstellar Bullet Engine IRAS05506+2414: A Molecular-Line Study
Sahai, R.; Patel, N. A., Claussen, M. J., Sanchez Contreras, C.; Morris, M. R.
AAS Meeting No. 219, Paper No. 337.04
22. A Rotating Circumstellar Disk Around a High-Mass Protostar in IRAS 18162-2048
Fernandez-Lopez, M., Girart, J. M., Curiel, S., Patel, N. A., Gomez, Y., Ho, P.T.P.
2011, Midwest Astrochemistry Meeting 2011, held 21-22 October at the University of Illinois at Urbana-Champaign.
23. An interferometric Spectral Line Survey of IRC+10216 in the 345 GHz Band
Patel, N. A.; Young, K. H.; Gottlieb, C. A.; Menten, K. M.
2011, Why Galaxies Care about AGB Stars II, Proceedings of a conference held at University Campus, Vienna, Austria, 16-20 August 2010
24. An Interferometric 270–355 GHz Spectral Line Survey of the Red Supergiant VY CMA
Menten, K. M.; Young, K. H.; Patel, N. A.; Gottlieb, C. A.; Thaddeus, P.; McCarthy, M. C.; Gurwell, M. A.; Belloche, A.; Kaminski, T.; Verheyen, L.; Decin, L.; Bruenken, S.; Holger, S. P. M.
2011, The Molecular Universe, Proceedings of the 280th Symposium of the International Astronomical Union held in Toledo, Spain, May 30-June 3, 2011
25. Extending The SMA Spectral-line Survey Of Irc+10216 In The 400 Ghz Band
Patel, N. A.; Young, K.; Gottlieb, C.; Thaddeus, P.; Menten, K.; McCarthy, M.; Keto, E.; Wilson, R.
2011, American Astronomical Society, AAS Meeting #218, #127.17; Bulletin of the American Astronomical Society, Vol. 43, 2011
26. Discovery Of An Expanding Molecular Bubble In Orion BN/KL
Loinard, Laurent; Zapata, L. A.; Rodriguez, L. F.; Schmid-Burgk, J.; Ho, P.; Patel, N.
2011, American Astronomical Society, AAS Meeting #217, #434.44; Bulletin of the American Astronomical Society, Vol. 43, 2011
27. Morphology of Planetary Nebulae with Water Maser Emission
Tafoya, D.; Gomez, Y.; Patel, N. A.; Torrelles, J. M.; Anglada, G.; Miranda, L. F.
2011, Asymmetric Planetary Nebulae 5 conference, held in Bowness-on-Windermere, U.K., 20 - 25 June 2010, A. A. Zijlstra, F. Lykou, I. McDonald, and E. Lagadec, eds. (2011) Jodrell Bank Centre for Astrophysics
28. Partner time sharing at the Submillimeter Array
Petitpas, G.; Zhang, Q.; Katz, C.; Patel, N.A.; Blundell, R.
2010, Observatory Operations: Strategies, Processes, and Systems III. Edited by Silva, David R.; Peck, Alison B.; Soifer, B. Thomas. Proceedings of the SPIE, Volume 7737
29. SMA Line Survey of IRC+10216 in the 345 GHz Band
Patel, N. A.; Young, K. H.; Wilson, R. W.; Thaddeus, P.; Menten, K. M.; McCarthy, M. C.; Bruenken, S.; He, J.; Trung, D.; Reid, M.; Keto, E.; Gottlieb, C.
2010, American Astronomical Society, AAS Meeting #215, #357.05; Bulletin of the American Astronomical Society, Vol. 42, p.541

30. Observations of massive-star formation
Patel, N.A.
Massive Stars: From Pop III and GRBs to the Milky Way. Space Telescope Science Institute Symposium Series No. 20. Edited by Mario Livio and Eva Villaver. Cambridge University Press, 2009, ISSN 9780521762632, p.25-39 2009, American Astronomical Society, AAS Meeting #213, #359.03; Bulletin of the American Astronomical Society, Vol. 41, p.502
31. Submillimeter Wavelength Narrow Line Emission from the inner Circumstellar Envelope of IRC+10216
Patel, N.A., Young, K.H., Wilson, R.W., Bruenken, S., Thaddeus, P., Menten, K., Ried, M., McCarthy M., Van-Trung, D., Gottlieb, C., Hedden, A.
BAAS, (2008), 212, 1709
32. Submillimeter Array observations of 321 GHz water maser emission in Cepheus A
Patel, N.A., Curiel, S., Zhang, Q., Sridharan, T.K., Ho, P.T.P., Torrelles, J.M.
IAU Symposium (2007), 242, 489.
33. SMA Observations of H₂CO Line from Sgr B2: Infalling Molecular Gas onto The Massive Star Formation Cores
Qin, S.; Moran, J.; Zhao, J.; Marrone, D.; Patel, N.; Liu, S.; Kuan, Y.; Wang, J.
IAU Symposium (2006) 237, 198
34. Infall, Fragmentation and Outflow in Sgr B2
Qin, Sheng-Li; Zhao, Jun-Hui; Moran, James M.; Marrone, Daniel; Patel, N.; Liu, Sheng-Yuan; Kuan, Yi-Jehng; Wang, Jun-Jie
Published in J. Physics Conference Series, astro-ph/0608213
35. Elevation angle dependence of the SMA antenna focus position
Matsushita, Satoki; Saito, Masao; Sakamoto, Kazushi; Hunter, Todd R.; Patel, Nimesh A.; Sridharan, Tirupati K.; Wilson, Robert W.
Proceedings of the SPIE, (2006), 6257, 61
36. APEX: the Atacama Pathfinder EXperiment
Gusten, R., Booth, R.S., Cesarsky, C, Menten, K. M. and 62 coauthors
Proceedings of the SPIE (2006), 6267, 37
37. Dual frequency 230/690 GHz interferometry at the Submillimeter Array
Hunter, Todd R.; Barrett, John W.; Blundell, Raymond; Christensen, Robert D.; Kimberk, Robert S.; Leiker, Steven P.; Marrone, Daniel P.; Paine, Scott N.; Cosmo Papa, D.; Patel, Nimesh; and 6 coauthors
it 16th International Symposium on Space Terahertz Technology held at Chalmers University of Technology in Sweden, May 2-4, 2005, astro-ph/0509467
38. A pair of close YSOs with strikingly different outflow ejection geometry
Torrelles J. M., Patel N. A., Anglada G., Gomez, J. F., Ho P. T. P., Lara L., Alberdi A., Canto J., Curiel S., Garay G. & Rodriguez L. F.
Proceedings of IAU Symposium No. 227, Ed. Cesaroni R., Churchwell E, Felli M. & Walmsley C. M., Catania, Italy, May 2005
39. Pointing calibration of the SMA antennas
Patel N. A., Sridharan T. K.
Proceedings of SPIE – Volume 5496 Advanced Software, Control, and Communication Systems for Astronomy, Hilton Lewis, Gianni Raffi, Editors, September 2004, pp. 639-648
40. Holographic surface setting of the Sub-millimeter Array antennas
Sridharan T. K., Saito M., Patel N. A., Christensen R. D.
Ground-based Instrumentation for Astronomy. Edited by Moorwood, Alan F. M.; Iye, Masanori. Proceedings of the SPIE, Volume 5495, pp. 441-446 (2004).

41. High Velocity Bipolar Outflow from the Carbon Star V Hydrae Imaged with the Submillimeter Array
Hirano,N. Shinnaga,H. Zhao,J.-H.. Young,K. Fong,D. Dinh,V.-T. Qi,C.-H. Zhang,Q. Patel,N. A. Keto,E.
Asymmetrical Planetary Nebulae III: Winds, Structure and the Thunderbird, Proceedings of the conference held 28 July - 1 August 2003 at Mt. Rainer, Washington, USA. Edited by Margaret Meixner, Joel H. Kastner, Bruce Balick and Noam Soker. ASP Conference Proceedings, Vol. 313. San Francisco: Astronomical Society of the Pacific, 2004., p.341
42. A Holographic Measurement System for the SMA Antennas at 680 GHz
Sridharan,T.K.; Tong,C.E.; Saito,M.; Patel,N.A.; Blundell,R.
Thirteenth International Symposium on Space Terahertz Technology, p. 545-550
43. An Enigmatic, Expanding, Spherical Bubble Ejected from Young Stellar Object
Torrelles,J.M., Patel,N.A., Gomez,J.F., Ho,P.T.P., Rodriguez,L.F., Anglada,G., Garay,G., Curiel,S., Canto,J.
Winds, Bubbles, and Explosions: a conference to honor John Dyson, Patzcuaro, Michoacan, Mexico, September 9-13, 2002 (Eds. S. J. Arthur and W. J. Henney) Revista Mexicana de Astronomia y Astrofisica (Serie de Conferencias) (2003) ,15,100.
44. Water Maser Microstructures in Cepheus A
Torrelles,J.M., Patel,N.A., Ho,P.T.P., Greenhill,L., Gomez,J.F., Rodriguez,L.F., Anglada,G., Garay,G., Curiel,S., Canto,J.,
Galactic Star Formation Across the Stellar Mass Spectrum, ASP Conference Series, Vol. 287, proceedings of the 2002 International Astronomical Observatories in Chile workshop, held 11-15 March 2002 at La Serena, Chile. Edited by James M. De Buizer and Nicole S. van der Bliek. San Francisco: Astronomical Society of the Pacific, ISBN: 1-58381-130-3, 2003, p. 373-376.
45. Detection of the Exciting Source of the Outflow in LKHA234
Trinidad,M. A., Curiel,S., Rodriguez,L.F., Canto,J, Torrelles,J.M., Gomez,J.F., Patel,N. A., Ho,P.T.P.,
Star Formation at High Angular Resolution, International Astronomical Union. Symposium no. 221, held 22-25 July, 2003 in Sydney, Australia.
46. Interferometric Maser Observations from Outflows/Disks in Star-Forming Regions
Revista Mexicana de Astronomia y Astrofisica (Serie de Conferencias) (2002), 13, 108.
47. Pointing Control Software for the Submillimeter Array Antennas
Patel N. A.
SPIE (2000), 4009,88.
48. Proper motion of water masers associated with IRAS 21391+5802
Patel N. A., Greenhill,L.J.; Herrnstein,J.R.; Zhang,Q.; Moran,J.M.; Ho,P.T.P.; Goldsmith,P.F
Proceedings of Star Formation 1999, Nagoya, Japan, Ed: T. Nakamoto, p 300.
49. Origin and Evolution of the Cepheus Bubble
Patel,N.A.; Goldsmith,P.F.; Heyer,M.H.; Snell,R.; Pratap,P.
Lecture Notes in Physics, (1998),vol 506, p421.
50. A Well-Shaped Outflow in MonR2
Xie, T., Goldsmith, P.F., Patel N. A.
Revista Mexicana de Astronomia Y Astrofisica (1994) 29,63
51. CO Mapping of the Cepheus Bubble
Patel N. A., Heyer M.H., Goldsmith, P.F., Snell, R.L., Hezel, T., Pratap, P.
The Fourth Haystack Observatory Conference (1994), Clouds, Cores and Low Mass Stars, Ed: D. P. Clemens & Richard Barvainis, p81.
52. The Outflow, Dense Core and Jet in L810
Clemens, D., Berkovitch, M., Patel N. A., Taoling Xie
The Fourth Haystack Observatory Conference 1994, Clouds, Cores and Low Mass Stars, Ed: D. P. Clemens & Richard Barvainis, p386.
53. SiO Masers and the Intrinsic properties of Mira variables
Patel, N.A., Antony, J., Ganesan, R., Shukre, C.S.
Astrophysical Masers, 1993, ed: A. W. Clegg & G. Nedoluha, (Springer Verlag) p 445.