

Curriculum Vitae

ROBERT A. FESEN

Address: Department of Physics and Astronomy
6127 Wilder Lab, Dartmouth College, Hanover, NH 03755
phone: 603.646.2949; FAX: 603.646.1446
e-mail address: Robert.Fesen@dartmouth.edu

Education: Ph.D. Astronomy University of Michigan 1981
M.S. Astronomy University of Hawaii 1973
B.S. Astronomy Villanova University 1971

Employment: 1998–present Professor, Physics & Astronomy Dept., Dartmouth College
1992–1998 Associate Professor, Physics & Astronomy Dept., Dartmouth College
1992–1994 Acting Director, MDM Observatory, Kitt Peak Mtn, Arizona
1989–1992 Assistant Professor, Physics & Astronomy Dept., Dartmouth College
1986–1989 Fellow, Center for Astrophysics & Space Astronomy
University of Colorado
1983–1986 Research Associate and Lecturer, Department of Astrophysics,
Planetary, and Atmospheric Sciences
University of Colorado; Lecturer, Honors Department
1981–1983 NAS-NRC Research Associate, Goddard Space Flight Ctr.
National Research Council, National Academy of Science
1976–1981 Teaching Assistant, Department of Astronomy
University of Michigan
Research Assistant, Michigan Spectral Catalog Project,
University of Michigan
1973–1976 Computer Programmer, AT&T Comptrollers Department
New Brunswick, N.J.

Research Areas: Supernovae and Supernova Remnants, General Interstellar Medium, Planetary Nebulae, High-Altitude Long Duration Science Platforms

Positions/Fellowships: C. Troy Shaver Fellowship, Dartmouth College 2002
Center for Astrophysics & Space Astronomy, Univ. of Colorado, Boulder
Visiting Astronomer: 1993, 1995, 1996, 2005, & 2006
JILA-NIST/Univ. of Colorado, Visiting Fellow, 1998
Center of Space Sciences, UT Dallas, 1999
Johns Hopkins University, Baltimore, 1992

Service: 1986 – Scientific Organizing Committee (SOC), I.A.U. Colloq. 101
1989 – NASA/IUE Peer Review Panel, Member
1989 – NASA/ROSAT Peer Review Panel, Member
1990 – NASA/IUE Peer Review Panel, Member
1992 – NASA/ADP Peer Review Panel, Member
1993 – NASA/ROSAT Peer Review Panel, Member
1996 – NASA/STScI Hubble Spaced Telescope Peer Review Panel, Member
1997 – NASA/STScI Hubble Space Telescope Peer Review Panel, Chair
1997 – NASA/STScI Hubble Space Telescope TAC, Member
1998 – NASA/Chandra X-Ray Observatory Peer Review Panel, Member
1998 – SOC, Young SNR Workshop, Boulder Colorado
2001 – NASA/Chandra X-Ray Observatory Peer Review Panel, Member
2003 – NASA/STScI Hubble Space Telescope Peer Review Panel, Member
2004 – NASA/STScI Hubble Space Telescope Peer Review Panel, Chair
2004 – NASA/STScI Hubble Space Telescope TAC, Member
2005 – NASA/Chandra X-Ray Observatory Peer Review Panel, Chair
2005 – NASA/Chandra X-Ray Observatory Large Project Panel, Member
2007 – NSF/NOAO Kitt Peak Directorship Search Committee, Member
2007 – SOC, AAS Workshop on Supernova Remnants, Honolulu Hawaii
2007 – NASA/STScI Hubble Space Telescope TAC, Member
2007 – NSF/Interstellar Medium Science, Peer Review Panel, Member
2008 – NASA/Chandra X-Ray Observatory Peer Review Panel, Chair
2009 – Nat. Academy of Sci., Astronomy Decadal Science Panel, Member
2009 – SOC, Science Payloads on High Altitude Platforms, NCAR Boulder

Recent Invited Talks

- “Young Core-Collapse Supernova Remnants”, August 2011, AlbaNova University, Stockholm Sweden.
- “Supernovae and Their Remnants”, 15 Feb 2010, Joint Institute for Laboratory Astrophysics, University of Colorado, Boulder CO
- “What can Young Supernova Remnants Tell Us”, 19 Aug 2009, Kavi Institute for Theoretical Astrophysics, University of California, Santa Barbara, CA
- “MultiWavelength Observations of Young Supernova Remnants”, 9 July 2009, Cambridge, MA
- “Young Remnants of Core-Collapse Supernovae” 17 April 2008, University of Virginia, Charlottesville, VA
- “Studying the Aftermath of Supernova Explosions; How Stars Really Blow-up”, 21 September 2007, University of Montreal, Montreal, Canada

- “What can young Core-Collapse SNRs tell us about SN Expansion Asymmetries and Progenitor CSM?”, 15 August 2007, Workshop on “From Massive Stars to Supernova Remnants”, hosted by the Lorentz Center, Leiden University, Leiden, The Netherlands
- “A High-Altitude, Solar Powered Airship as a Platform for Astronomy and Solar Physics Research”, 27 October 2006, High Altitude Observatory, NCAR, Boulder Colorado

Journal Articles in Preparation

Milisavljevic, D, & **Fesen, R.A.**, “A Kinematic Map of the Optical Ejecta in the Cas A Supernova Remnant”,

Fesen, R.A., Patnaude, D. J., Milisavljevic, D., & Zastrow, J.A., “Investigation of the Reverse Shock Front in the Galactic Supernova Remnant Cassiopeia A”

Publications: Refereed Journal Articles

145 referred publications (56 as first author) 4700 citations, $h = 38$

- 146:** **Fesen, R.A.**, Richard Kremer, Daniel Patnaude, & Dan Milisavljevic, “The SN 393 – SNR RX J1713.7-3946 Connection”, 2011, *Astronomical Journal*, submitted.
- 145:** **Fesen, R.A.**, Zastrow, J., Hammell, M., Shull, J.M., & Silvia, D., “Ejecta Knot Flickering, Mass Ablation, and Fragmentation in Cassiopeia A” 2011, *Astrophysical Journal*, 736, 109 (13 pp).
- 144:** Meikle, Peter; Kotak, Rubina; Farrah, Duncan; Mattila, Seppo; van Dyk, Schuyler D.; Andersen, Anja C.; **Fesen, R.A.**; et al., “Dust and the type II-Plateau supernova 2004dj”, 2011, *Astrophysical Journal*, 732, 109 (28pp).
- 143** Parrent, Jerod T.; Thomas, R. C.; **Fesen, R.A.**; Marion, G. H.; Challis, Peter; Garnavich, Peter M.; Milisavljevic, Dan; Vink, Jzsef; Wheeler, J. Craig, “ A Study of Carbon Features in Type Ia Supernova Spectra”, 2011, *Astrophysical Journal*, 732, 30 (15 pp).
- 142:** Patnaude, Daniel J.; Vink, Jacco; Laming, J. Martin, & **Fesen, R.A.**, “A Decline in the Nonthermal X-ray Emission from Cassiopeia A”, 2011, *Astrophysical Journal Letters*, 729, L28 (5 pp).

- 141: Eriksen, K.A., Hughes, J.P., Badenes, C., **Fesen, R.A.**, et al., “Evidence for Particle Acceleration to the Knee of the Cosmic Ray Spectrum in Tycho’s Supernova Remnant”, 2011, *Astrophysical Journal Letters*, 728, L28 (5 pp).
- 140: Bietenholz, M.F., Bartel, N., Milisavljevic, D., **Fesen, R.A.**, Challis, P., and Kirshner, R.P., “The first VLBI image of the young, oxygen-rich supernova remnant in NGC 4449”, 2010, *Monthly Notices of the Royal Astro. Soc.*, 409, 1594–1600.
- 139: Kasliwal, M.M., et al. (includes **Fesen, R.A.**), “Rapidly Decaying Supernova 2010X: A Candidate “.Ia” Explosion” 2010, *Astrophysical Journal Letters*, 723, L98–102.
- 138: **Fesen, R.A.**, & Milisavljevic, D., “Optical Discovery of an Apparent Galactic Supernova Remnant G159.6+7.3” 2010, *Astronomical Journal*, 140, 1163–1167.
- 137: Humphreys, R.M., Prieto, J.L., Rosenfield, P., Helton, L.A., Kochanek, C.S., Stanek, K.Z., Khan, R., Szczygiel, D., Mogren, K., **Fesen, R.A.**, Milisavljevic, D., Williams, B., Murphy, J., Dalcanton, J., and Gilbert, K., “SN 2010U: A Luminous Nova in NGC 4214” 2010, *Astrophysical Journal*, 718, L43–L47.
- 136: **Fesen, R.A.**, & Milisavljevic, D., “The Nature of the Strong 24 micron *Spitzer* Source J222557+601148: Not a Young Galactic Supernova Remnant” 2010, *Astronomical Journal*, 139, 2595–2599.
- 135: Milisavljevic, D., **Fesen, R.A.**, Gerardy, C. L., Kirshner, R. P., & Challis, P. “Doublets and Double Peaks: Late-Time [O I] 6300,6364 Line Profiles of Stripped-Envelope, Core-Collapse Supernovae”, 2010, *Astrophysical Journal*, 709, 1343–1355.
- 134: Kotak, R. et al. (includes **Fesen, R.A.**), “Dust and the Type II-Plateau Supernova 2004et”, 2009, *Astrophysical Journal*, 704, 306–323.
- 133: Kerzendorf, W.E., Schmidt, B.P., Asplund, M., Nomoto, K., Podsiadlowski, P., Frebel, A., & **Fesen, R.A.**, 2009, “Subaru high-resolution spectroscopy of Star G in the Tycho Supernova Remnant”, *Astrophysical Journal*, 701, 1665–1672.
- 132: Patnaude, D. J., **Fesen, R.A.**, “Proper Motions and Brightness Variations of Nonthermal X-ray Filaments in the Cassiopeia A Supernova Remnant” 2009, *Astrophysical Journal*, 697, 535–543.

- 131:** Milisavljevic, D., **Fesen, R.A.**, Kirshner, R. P., & Challis, P., “The Evolution of Late-Time Optical Emission from SN 1979C” 2009, *Astrophysical Journal*, 692, 839–843.
- 130:** Hammell, M.C., & **Fesen, R.A.**, “A Catalog of Outer Ejecta Knots in the Cassiopeia A Supernova Remnant”, 2008, *Astrophysical Journal Suppl.*, 179, 195–208.
- 129:** Milisavljevic, D. & **Fesen, R.A.**, “Late-Time Optical Emission from SN 1986J” 2008, *Astrophysical Journal*, 684, 1170–1173.
- 128:** Milisavljevic, D. & **Fesen, R.A.**, “The Nature of the Ultraluminous Oxygen-Rich Supernova Remnant in NGC 4449”, 2008, *Astrophysical Journal*, 677, 306–316.
- 127:** Rudie, G.C, **Fesen, R.A.**, & T. Yamada, “The Crab Nebula’s Dynamical Age as Measured from its Northern Filamentary Jet”, 2008, *Monthly Notices of the Royal Astronomical Society*, 384, 1200–1206.
- 126:** **Fesen, R.**, Rudie, G., Hurford, A., & Soto, A., “Optical Imaging and Spectroscopy of the Galactic Supernova Remnant 3C 58 (G130.7+3.1)”, 2008, *Astrophysical Journal Suppl.*, 174, 379–395.
- 125:** Hamilton, A.J.S., **Fesen, R.A.**, & Blair, W.P., “A High Resolution UV Absorption Spectrum of Supernova Ejecta in SN1006” 2007, *Monthly Notices of the Royal Astronomical Society*, 381, 771–778.
- 124:** Gerardy, C.L., & **Fesen, R.A.**, “Discovery of Extensive Optical Emission Associated with the X-ray Bright Galactic Supernova Remnant G156.2+5.7”, 2007, *Monthly Notices of the Royal Astronomical Society*, 376, 929–938.
- 123:** **Fesen, R.A.**, Hoefflich, P.A., Hamilton, A.J.S., Hammell, M.C., Gerardy, C.L., Khokhlov, A.M., & Wheeler, J.C., “The Chemical Distribution in a Subluminous Type Ia Supernova: Hubble Space Telescope Images of the SN 1885 Remnant”, 2007, *Astrophysical Journal*, 658, 396–409.
- 122:** Patnaude, D.J., & **Fesen, R.A.**, “Small-Scale X-Ray Variability in the Cassiopeia A Supernova Remnant”, 2007, *Astronomical Journal*, 133, 147–153.
- 121:** Motohara, K., Maeda, K., Gerardy, C.L., Nomoto, K., Tanaka, M., Tomimaga, N., Ohkubo, T., Mazzali, P.A., **Fesen, R.A.**, Hflich, P., & Wheeler, J.C. “The Asymmetric Explosion of Type Ia Supernovae as Seen from Near-Infrared Observations”, 2006, *Astrophysical Journal*, 652, L101–L104.

- 120: Seward, F. D.; Tucker, W. H., & **Fesen, R.A.**, “Faint X-Ray Structure in the Crab Pulsar Wind Nebula”, 2006, *Astrophysical Journal*, 652, 1277–1287.
- 119: Kotak, R., et al. (includes **Fesen, R.A.**), “Spitzer Measurements of Atomic and Molecular Abundances in the Type IIP SN 2005af”, 2006, *Astrophysical Journal*, 651, L117–L120.
- 118: Meikle, W.P.S., Mattila, S., Gerardy, C.L., Kotak, R., Pozzo, M., van Dyk, S.D., Farrah, D., **Fesen, R.A.**, Filippenko, A.V., Fransson, C., Lundqvist, P., Sollerman, J., & Wheeler, J.C., “A Spitzer Space Telescope Study of SN 2002hh: An Infrared Echo from a Type IIP Supernova”, 2006, *Astrophysical Journal*, 649, 332–344.
- 117: **Fesen, R.A.**, Hammell, M.C., Morse, J., Chevalier, R.A., Borkowski, K.J., Dopita, M.A., Gerardy, C.L., Lawrence, S.S., Raymond, J.C., & van den Bergh, S., “The Expansion Asymmetry and Age of the Cassiopeia A Supernova Remnant”, 2006, *Astrophysical Journal*, 645, 283–292.
- 116: **Fesen, R.A.**, Hammell, M.C., Morse, J., Chevalier, R.A., Borkowski, K.J., Dopita, M.A., Gerardy, C.L., Lawrence, S.S., Raymond, J.C., & van den Bergh, S., “Discovery of Outlying, High-Velocity Oxygen-Rich Ejecta in Cassiopeia A”, 2006, *Astrophysical Journal*, 636, 859–872.
- 115: **Fesen, R.A.**, Pavlov, G.G., & Sanwal, D., “Near-Infrared and Optical Limits for the Central X-ray Point Source in the Cassiopeia A Supernova Remnant”, 2006, *Astrophysical Journal*, 636, 848–858.
- 114: Patnaude, D. J. & **Fesen, R.A.**, “Model Simulations of a Shock-Cloud Interaction in the Cygnus Loop”, 2005, *Astrophysical Journal*, 633, 240.
- 113: Immler, S., **Fesen, R.A.**, Van Dyk, S. D., Weiler, K. W., Petre, R., Lewin, W. H. G., Pooley, D., Pietsch, W., Aschenbach, B., Hammell, M. C., & Rudie, G. C., “Late-Time X-Ray, UV, and Optical Monitoring of Supernova 1979C”, 2005, *Astrophysical Journal*, 632, 283.
- 112: Winkler, P.F., Long, K.S., Hamilton, A.J.S., & **Fesen, R.A.**, “Probing Multiple Core Samples through the SN 1006 Remnant by UV Absorption Spectroscopy”, 2005, *Astrophysical Journal*, 624, 189–197.
- 111: Hoefflich, P., Gerardy, C.L., Nomoto, K., Motohara, K., **Fesen, R.A.**, Maeda, K., Ohkubo, T., Tominaga, N., and Wheeler, J.C., “Signatures of Electron

- Capture in Iron-Rich Ejecta of SN 2003du”, 204, *Astrophysical Journal*, 617, 1258–1266.
- 110:** Hwang, U., et al. (includes **Fesen, R.A.**), “A Million-Second Chandra View of Cassiopeia A”, 2004, *Astrophysical Journal Letters*, 615, L117–L120.
- 109:** Morse, J., **Fesen, R.A.**, Chevalier, R.A., Borkowski, K.J., Gerardy, C.L., Lawrence, S.S., and van den Bergh, S., “The Location of the Optical Reverse Shock in the Cassiopeia A Supernova Remnant”, 2004, *Astrophysical Journal*, 614, 727–736.
- 108:** DeLaney, T., Rudnick, L., **Fesen, R.A.**, Hwang, U., Jones, T.W., Petre, R., and Morse, J., “Kinematics of X-Ray Emitting Components in Cassiopeia A”, 2004, *Astrophysical Journal*, 613, 343–348.
- 107:** Gerardy, C.L., Hoeflich, P., **Fesen, R.A.**, Marion, G.H., Nomoto, K., Quimby, R., Schaefer, B.E., Wang, L., and Wheeler, J.C., “SN 2003du: Signatures of the Circumstellar Environment in a Normal Type Ia Supernova?”, 2004, *Astrophysical Journal*, 607, 391–405.
- 106:** Patnaude, D. J. & **Fesen, R.A.**, “Chandra Observations of the Luminous, O-Rich SNR in the Irregular Galaxy NGC 4449”, 2003, *Astrophysical Journal*, 587, 221–226.
- 105:** Gerardy, C. L., **Fesen, R.A.**, Nomoto, K., Maeda, K., Höflich, P., & Wheeler, J.C., “Carbon Monoxide in the Type Ic SN 2000ew”, 2002, *Pub. Astro. Soc. of Japan*, 54, 095–910.
- 104:** Patnaude, D. J., **Fesen, R.A.**, Raymond, J. C., Levenson, N. A., Graham, J. R. & Wallace, D. J., “An Isolated, Recently Shocked ISM Cloud in the Cygnus Loop SNR” 2002, *Astronomical Journal*, 124, 2118–2134.
- 103:** Gerardy, C. L. **Fesen, R.A.**, Nomoto, K., Garnavich, P.M., Jha, S., Challis, P.M., Kirshner, R.P., Höflich, P., Wheeler, J.C., 2002, “Extraordinary Late-Time Infrared Emission of Type II-n”, *Astrophysical Journal*, 575, 1007–1017.
- 102:** Mazzali, P. A. et al., “The Type Ic Hypernova SN 2002ap”, 2002, *Astrophysical Journal*, 572L, 61–65.
- 101:** Höflich, P., Gerardy, C., **Fesen, R.**, and Sakai, S., “Infrared Spectra of the Subluminous Type Ia Supernova 1999by”, 2002, *Astrophysical Journal*, 568, 791–806.

- 100:** Hjorth, J. et al. (includes **Fesen, R.A.**), "The Afterglow and Complex Environment of the Optically Dim Burst GRB 980613", 2002, *Astrophysical Journal*, 576, 112–119.
- 99:** Mazzali, P. A., et al. (includes R. Fesen), "The Type Ic Hypernova SN 2002ap", 2002, *Astrophysical Journal*, 572, L61–65.
- 98:** Fransson, C., Chevalier, R.A., Filippenko, A.V., Leibundgut, B., Barth, A.J., **Fesen, R.A.**, Kirshner, R.P., Leonard, D.C., Li, W., Lundqvist, P., Sollermann, J., & van Dyk, S.D., "Optical and Ultraviolet Spectroscopy of SN 1995N: Evidence for Strong Circumstellar Interaction", 2002, *Astrophysical Journal*, 572, 350–370.
- 97:** Schaller, E.L., & **Fesen, R.A.**, "The Nature of the [Ar III] Bright Knots in the Crab Nebula 2002", *Astronomical Journal*, 123, 941–947.
- 96:** **Fesen, R.A.**, Morse, J.A., Chevalier, R.A., Borkowski, K.J., Gerardy, C.L., Lawrence, S.S., & van den Bergh, S., "Hubble Space Telescope WFPC-2 Imaging of Cassiopeia A", 2001, *Astronomical Journal*, 122, 2644–2661.
- 95:** Thorstensen, J.R., **Fesen, R.A.**, & van den Bergh, S. "The Expansion Center and Dynamical Age of the Galactic Supernova Remnant Cassiopeia A", 2001, *Astronomical Journal*, 122, 297–307.
- 94:** Gerardy, C.L. & **Fesen, R.A.**, "Near-Infrared Spectroscopy of the Cassiopeia A and Kepler Supernova Remnants" 2001, *Astronomical Journal*, 121, 2781–2791.
- 93:** **Fesen, R.A.**, "An Optical Survey of Outlying Ejecta in Cassiopeia A: Evidence for a Turbulent, Asymmetric Explosion" 2001, *Astrophysical Journal Suppl.*, 133, 161–186.
- 92:** Blair, W. P., **Fesen, R.A.**, & Schlegel, E. M., "Hubble Space Telescope Images of the UltraLuminous Supernova Remnant Complex in NGC 6946" 2001, *Astronomical Journal*, 121, 1497–1506.
- 91:** Hamilton, A.J.S., & **Fesen, R.A.**, "An Ultraviolet Fe II Image of SN 1885 in M31" 2000, *Astrophysical Journal*, 542, 779–784.
- 90:** Schlegel, E. M., Blair, W. P., & **Fesen, R.A.**, "ROSAT HRI and ASCA Observations of the Spiral Galaxy NGC 6946 and Its Northeast Complex of Luminous SNRs" 2000, *Astronomical Journal*, 120, 791–800.

- 89:** Gerardy, C.L., **Fesen, R.A.**, Hoflich, P. & Wheeler, J. C. 2000, “Detection of CO and Dust Emission in Near-Infrared Spectra of SN 1998S” *Astronomical Journal*, 119, 2968–2981.
- 88:** **Fesen, R.A.**, Gerardy, C.L., McLin, K.M., & Hamilton, A.J.S. 1999, “HST Images and Spectra of the Remnant of SN 1885 in M31”, *Astrophysical Journal*, 514, 195-201.
- 87:** Van Dyk, S.D., Peng, C.Y., Barth, A.J, Filippenko, A.V., Chevalier, R.A., **Fesen, R.A.**, Fransson, C., Kirshner, R.P., & Leibundgut, B. 1999, “Hubble Space Telescope WFPC2 Imaging of SN 1979C and Its Environment” *Pub. Astron. Soc. of the Pacific*, 111, 313–320.
- 86:** **Fesen, R.A.**, Gerardy, C.L., Filippenko, A.V., Matheson, T., Chevalier, R.A., Schmidt, B.P., Fransson, C., Leibundgut, B., & Van Dyk, S.D. 1999, “Late-Time Optical and Ultraviolet Spectra of SN 1979C and SN 1980K” *Astronomical Journal*, 117, 725–735.
- 85:** Reiputh, B., Bally, J., **Fesen, R.A.**, & Devine, D. 1998, “Protostellar jets Irradiated by Massive Stars”, *Nature*, 396, 343–345.
- 84:** **Fesen, R.A.** 1998, “A Late-Time Optical Detection of SN 1985L in NGC 5033” *Astronomical Journal*, 115, 1107–1110.
- 83:** Matonick, D. M., **Fesen, R.A.**, Blair, W. P., & Long, K. S. 1997, “An Optical Search for Supernova Remnants in NGC 2403” *Astrophysical Journal Suppl*, 113, 333–352.
- 82:** Matonick, D. M., & **Fesen, R.A.** 1997, “Optically Identified Supernova Remnants in the Nearby Spiral Galaxies NGC 5204, NGC 5585, NGC 6946, M81, and M101” *Astrophysical Journal Suppl.*, 112, 49–107.
- 81:** Levenson, N.A. et al. (includes **Fesen, R.A.**), 1997, “The ROSAT HRI X-Ray Survey of the Cygnus Loop”, *Astrophysical Journal*, 484, 304–312.
- 80:** Hamilton, A.J.S., **Fesen, R.A.**, Wu, C.-C., Crenshaw, D. M., and Sarazin, C. L. 1997, “Interpretation of Ultraviolet Absorption Lines in SN 1006” *Astrophysical Journal*, 482, 838–856.
- 79:** Blair, W.P., Davidson, K., **Fesen, R.A.**, Uomoto, A., MacAlpine, G. M., and Henry, R. B. C. 1997, “Hubble Space Telescope WFPC2 Imaging of the Crab Nebula I. Observational Overview”, *Astrophysical Journal Suppl.*, 109, 473–480.

- 78:** Wu, C.-C., Crenshaw, D. M., Hamilton, A.J.S., **Fesen, R.A.**, Leventhal, M., & Sarazin, C. L. 1997, “Far-UV Absorption Lines in the Remnant of SN 1006” *Astrophysical Journal*, 477, L53–L56.
- 77:** Schechter, P. L., et al. (includes **Fesen, R.A.**) 1997, “The Quadruple Gravitational Lens PG1115+080: Time Delays and Models”, *Astrophysical Journal*, 475, L85–L87.
- 76:** **Fesen, R.A.**, Winkler, P. F., Rathore, Y., Downes, R. A., Wallace, D., and Tweedy, R. W. 1997, “Optical Imaging and Spectroscopy of the Galactic Supernova Remnants CTB 1 (G116.9+0.2), G116.5+1.1, and G114”, *Astronomical Journal*, 113, 767–779.
- 75:** **Fesen, R.A.**, Shull, J.M., and Hurford, A.P. 1997, “An Optical Study of the Circumstellar Environment Around the Crab Nebula” *Astronomical Journal*, 113, 354–363.
- 74:** **Fesen, R.A.**, and Gunderson, K.S. 1996, “Optical Spectroscopy and Imaging of the Northeast Jet in the Cassiopeia A SNR”, *Astrophysical Journal*, 470, 967–980.
- 73:** **Fesen, R.A.**, and Hurford, A.P. 1996, “A Catalog of Ultraviolet, Optical, and Near-Infrared Emission Lines Identified in Supernova Remnants”, *Astrophysical Journal Suppl.*, 106, 563–578.
- 72:** Hurford, A.P., and **Fesen, R.A.** 1996, “Reddening Measurements for Cassiopeia A from Optical and Near-Infrared Spectra”, *Astrophysical Journal*, 469, 246–254.
- 71:** **Fesen, R.A.**, Downes, R.A., Wallace, D., and Normandeau, N. 1995, “Optical and Radio Survey of the Galactic Supernova Remnant HB 3 (G132.7+1.3)”, *Astronomical Journal*, **110**, 2876–2884.
- 70:** Hurford, A.P., and **Fesen, R.A.** 1995, “A ROSAT HRI Observation of the Galactic Supernova Remnant G109.1-1.0”, *Monthly Notices of the Royal Astronomical Society*, **277**, 549–552.
- 69:** Bally, J., Devine, D., **Fesen, R.A.**, and Lane, A.P. 1995, “Twin Herbig-Haro Jets and Molecular Outflows in L1228”, *Astrophysical Journal*, **454**, 345–360.

- 68:** Fesen, R.A., and Hurford, A.P. 1995, “Optical Images and Spectra of the Galactic Supernova Remnant G109.1-1.0”, *Astronomical Journal*, **110**, 747–752.
- 67:** Seward, F.D., Dame, T.M., Fesen, R.A., and Aschenbach, B. 1995, “A ROSAT Detected, New Galactic Supernova Remnant in Sagittarius, G13.3-1.3”, *Astrophysical Journal*, **449**, 681–687.
- 66:** Finn, R.A., Fesen, R.A., Darling, G.W., Thorstensen, J.R., and Worthey, G.A. 1995, “Optical Spectra of SN 1993J During the First 500 Days”, *Astronomical Journal*, **110**, 300–307.
- 65:** Fesen, R.A., Hurford, A.P., and Matonick, D.M. 1995, “Continued Monitoring of the Late-Time Optical Emission from SN 1980K”, *Astronomical Journal*, **109**, 2608–2610.
- 64:** Nichols-Bohlin, J., and Fesen, R.A. 1994, “The Nature of High-Velocity Interstellar Gas in the Lines-of-Sight to Wolf-Rayet Stars”, *A&Ap*, **291**, 283–294.
- 63:** Fesen, R.A., and Matonick, D.M. 1994, “The Late-Time Optical Spectrum of SN 1980K in NGC 6946”, *Astrophysical Journal*, **428**, 157–165.
- 62:** Blair, W.P. & Fesen, R.A. 1994, “An Unusually Luminous Optical Supernova Remnant in NGC 6946”, *Astrophysical Journal*, **424**, L103–106.
- 61:** Wu, C.-C., Crenshaw, D.M., Fesen, R. A., Hamilton, A.S. and Sarazin, C.L. 1993, “FOS Spectra of the Broad Fe II Absorption Lines in the Remnant of SN 1006”, *Astrophysical Journal*, **416**, 247–252.
- 60:** Fesen, R.A., 1993, “The Optical Recovery of SN 1970G in M101”, *Astrophysical Journal*, **413**, L109–112.
- 59:** Fesen, R.A., and Staker, B. 1993, “Structure and Proper Motion of the Crab Nebula’s Jet”, *Monthly Notices of the Royal Astronomical Society*, **263**, 69–74.
- 58:** Fesen, R.A., and Matonick, D.M. 1993, “The Optical Recovery of SN 1979C in NGC 4321 (M 100)”, *Astrophysical Journal*, **407**, 110–114.
- 57:** Nichols-Bohlin, J., and Fesen, R.A. 1993, “The Violent Interstellar Medium Around the Wolf-Rayet Star HD 192163”, *Astronomical Journal*, **105**, 672–690.

- 56: **Fesen, R.A.**, Martin, C.L., and Shull, J.M. 1992, “The Synchrotron Emission ‘Bays’ of the Crab Nebula: Evidence for a Pre-Supernova Circumstellar Disk”, *Astrophysical Journal*, **399**, 599–610.
- 55: Saken, J.M., Shull, J.M., Garmany, K., Nichols-Bohlin, J., and **Fesen, R.A.** 1992, “An Infrared Supershell Surrounding the Cygnus OB1 Association”, *Astrophysical Journal*, **397**, 537–541.
- 54: Saken, J.M., **Fesen, R.A.**, and Shull, J.M. 1992, “An IRAS Survey of Galactic Supernova Remnants”, *Astrophysical Journal Suppl.*, **81**, 715–745.
- 53: **Fesen, R.A.**, Kwitter, K.B., and Downes, R.A. 1992, “H α Images of the Cygnus Loop: A New Look at Shock Wave Dynamics in an Old Supernova Remnant”, *Astronomical Journal*, **104**, 719–724.
- 52: Stern, S.A., **Fesen, R.A.**, Barker, E.S., Parker, J.W., Trafton, L.M. 1991, “A Search for Additional Satellites of Pluto”, *Icarus*, **94**, 246–249.
- 51: **Fesen, R.A.**, and Becker, R.H. 1991, “New Clues to the Cassiopeia A Progenitor”, *Astrophysical Journal*, **371**, 621–625.
- 50: Koo, B.-C., Reach, W.T., Heiles, C., **Fesen, R.A.**, and Shull, J.M., 1990, “Detection of an Expanding H I Shell in the Old Supernova Remnant CTB 80”, *Astrophysical Journal*, **364**, 178–186.
- 49: **Fesen, R.A.** 1990, “An [Ne III] Image of the Cassiopeia A Supernova Remnant”, *Astronomical Journal*, **99**, 1904–1906.
- 48: Nichols-Bohlin, J., and **Fesen, R.A.** 1990, “High-Velocity Interstellar Gas in the Directions to the Wolf-Rayet Stars HD 96548 and HD 97152”, *Astrophysical Journal*, **353**, 281–289.
- 47: **Fesen, R.A.**, and Blair, W.P. 1990, “Optical Identification of Dust Within the Crab Nebula’s Filaments” *Astrophysical Journal*, **351**, L45–L48
- 46: **Fesen, R.A.**, and Becker, R.H. 1990, “Optical Detection of the Remnant of SN 1980K in NGC 6946”, *Astrophysical Journal*, **351**, 437–442.
- 45: Shull, J.M., **Fesen, R.A.**, and Saken J.M. 1989, “Pulsar Re-Energization of Old Supernova Remnant Shells”, *Astrophysical Journal*, **346**, 860–868.

- 44: **Fesen, R.A.**, Hamilton, A.J.S., and Saken, J.M. 1989, “Discovery of the Remnant of S Andromedae (SN 1885) in M31”, *Astrophysical Journal*, **341**, L55–L57.
- 43: **Fesen, R.A.**, Becker, R.H., Blair, W.P., and Long, K.S. 1989, “High-Velocity Shock Emission in Kepler’s Supernova Remnant”, *Astrophysical Journal*, **338**, L13–L16.
- 42: Becker, R.H., and **Fesen, R.A.** 1988, “G70.68+1.2: A Pre-Main Sequence Star with a Bright Optical and Radio Emission Shell”, *Astrophysical Journal*, **334**, L35–40.
- 41: Blair, W.P., **Fesen, R.A.**, Becker, R.H. 1988, “The Electron Temperature and Optical Emission Structure of the Central Component of CTB 80”, *Astronomical Journal*, **96**, 1011–1018.
- 40: **Fesen, R.A.**, Shull, J.M., and Saken, J.M. 1988, “Interaction Between CTB 80’s High Velocity Pulsar and an Infrared Emission Shell”, *Nature*, **334**, 229–231.
- 39: **Fesen, R.A.**, Becker, R.H., and Goodrich, R.W. 1988, “Highest Velocity Ejecta of Cassiopeia A”, *Ap. J. (Letters)*, **329**, L89–L92.
- 38: Henry, R.B.C., and **Fesen, R.A.** 1988, “[Ni II] Emission in Gaseous Nebulae and Seyfert Galaxies”, *Astrophysical Journal*, **329**, 693–701.
- 37: Hamilton, A.J.S., and **Fesen, R.A.** 1988, “The Re-Ionization of Unshocked Ejecta in SN 1006”, *Astrophysical Journal*, **327**, 178–196.
- 36: **Fesen, R.A.**, Wu, C.-C., Leventhal, M., and Hamilton, A.J.S. 1988, “High-Velocity Iron, Silicon, Oxygen, and Sulfur Absorption Features Associated with the Remnant of SN 1006”, *Astrophysical Journal*, **327**, 164–177.
- 35: Raymond, J.C., Hester, J.J., Cox, D.P., Blair, W.P., and **Fesen, R.A.** 1988, “Spatial and Spectral Interpretation of a Bright Filament in the Cygnus Loop”, *Astrophysical Journal*, **324**, 869–892.
- 34: **Fesen, R.A.**, Becker, R.H., and Blair, W.P., 1987, “Discovery of Fast-Moving Nitrogen-Rich Knots in the Supernova Remnant Cas A”, *Astrophysical Journal*, **313**, 378–388.

- 33:** Heckathorn, J.N., and **Fesen, R.A.** 1986, “High-Velocity Interstellar Features in the Direction of the WN Star HD 50986”, *Astronomical Journal*, **92**, 642–652.
- 32:** **Fesen, R.A.**, and Gull, T.R. 1986, “The Optical Structure of the Crab Nebula’s Jet”, *Astrophysical Journal*, **306**, 259–265.
- 31:** Straka, W.C., Dickel, J.R., Blair, W.P., and **Fesen, R.A.** 1986, “A Comparison of High Resolution Radio and Optical Data for the Northeast Region of the Cygnus Loop”, *Astrophysical Journal*, **306**, 266–270.
- 30:** **Fesen, R.A.** 1985, “Recent Optical Images of the Site of SN 1961v in NGC 1058”, *Astrophysical Journal*, **297**, L29–L31.
- 29:** **Fesen, R.A.**, and Itoh, H. 1985, “A Two Dimensional Spectrum of a Non-radiative Shock Filament in the Cygnus Loop”, *Astrophysical Journal*, **295**, 43–50.
- 28:** Davidson, K, and **Fesen, R.A.** 1985, “Recent Developments Concerning the Crab Nebula”, *Ann. Rev. Astr. Ap.*, **23**, 119–146.
- 27:** Heckathorn, J.N. and **Fesen, R.A.** 1985, “Ultraviolet Observations of the Central Star in the Planetary Nebula 136+5.1”, *A&Ap*, **143**, 475–477.
- 26:** **Fesen, R.A.**, Blair, W.P., and Kirshner, R.P. 1985, “Optical Emission Line Properties of Evolved Galactic Supernova Remnants”, *Astrophysical Journal*, **292**, 29–48.
- 25:** **Fesen, R.A.**, and Gull, T.R. 1985 “The Optical Structure of the Central Core in the Peculiar Remnant CTB 80”, *Astrophys. Letters*, **24**, 197–204.
- 24:** Blair, W.P., Kirshner, R.P., **Fesen, R.A.**, and Gull, T.R. 1984, “An Optical Investigation of the Peculiar Supernova Remnant CTB 80” *Astrophysical Journal*, **282**, 161–171.
- 23:** **Fesen, R.A.** 1984, “The Nature of the Filaments Northeast of the Supernova Remnant IC 443”, *Astrophysical Journal*, **281**, 658–664.
- 22:** Blair, W.P., Raymond, J.C., **Fesen, R.A.**, and Gull, T.R. 1984, “Ultraviolet Observations of the Peculiar Supernova Remnant in NGC 4449” *Astrophysical Journal*, **279**, 708–713.

- 21: Brecher, K., **Fesen, R.A.**, Maran, S.P., and Brandt, J.C. 1983, "Ancient Records and the Crab Nebula Supernova" *Observatory*, **103**, 106–113.
- 20: **Fesen, R.A.**, Gull, T.R., and Heckathorn, J.N. 1983, "Two New Possible Planetary Nebulae", *Pub. Astron. Soc. of the Pacific*, **95**, 614–618.
- 19: Raymond, J.C., Blair, W.P., **Fesen, R.A.**, and Gull, T.R. 1983, "The Structure and Emission Spectrum of a Non-Radiative Shock Wave in the Cygnus Loop", *Astrophysical Journal*, **276**, 636–644.
- 18: **Fesen, R.A.** 1983, "Discovery of High Radial Velocities in the Supernova Remnant 3C58", *Astrophysical Journal*, **270**, L53–L57.
- 17: **Fesen, R.A.**, and Gull, T.R. 1983, "The Optical Emission from the Supernova Remnant HB 3", *Pub. Astron. Soc. of the Pacific*, **95**, 196–200.
- 16: **Fesen, R.A.**, Gull, T.R., and Ketelsen, D.A. 1983, "Deep [O III] Interference-Filter Imagery of the Supernova Remnants G65.3+5.7, G126.2+1.6, CTA 1, and VRO 42.05.01", *Astrophysical Journal Suppl.*, **51**, 337–344.
- 15: Nomoto, K., Sparks, W.M., **Fesen, R.A.**, Gull, T.R., Miyagi, S., and Sugimoto, D. 1982, "The Crab Nebula's Progenitor" *Nature*, **299**, 803–805.
- 14: Heckathorn, J.N., **Fesen, R.A.**, and Gull, T.R. 1982, "Discovery of a Large, High-Excitation Planetary Nebula at $l = 136^\circ$, $b = 5^\circ$ ", *A&Ap*, **114**, 414–418.
- 13: **Fesen, R.A.**, Blair, W.P., and Kirshner, R.P. 1982, "Spectrophotometry of the Cygnus Loop", *Astrophysical Journal*, **262**, 171–188.
- 12: Gull, T.R., and **Fesen, R.A.** 1982, "Deep Optical Imagery of the Crab Nebula's Jet", *Astrophysical Journal*, **260**, L75–L78.
- 11: **Fesen, R.A.**, and Kirshner, R.P. 1982, "The Crab Nebula I. Spectrophotometry of the Filaments", *Astrophysical Journal*, **258**, 1–10.
- 10: Davidson, K., Gull, T.R., Maran, S.P., Stecker, T.P., **Fesen, R.A.**, Parise, R.A., Harvel, C.A., Kafatos, M., and Trimble, V.L. 1982, "The Ultraviolet Spectrum of the Crab Nebula", *Astrophysical Journal*, **252**, 696–706.
- 9: **Fesen, R.A.**, Blair, W.P., Kirshner, R.P., Gull, T.R., and Parker, R.A.R. 1981, "The Optical Emission from the Supernova Remnant CTA 1", *Astrophysical Journal*, **247**, 148–151.

- 8: **Fesen, R.A.**, Blair, W.P., and Gull, T.R. 1981, “Sharpless 216: A Curious Emission-Line Nebula”, *Astrophysical Journal*, **245**, 131–137.
- 7: **Fesen, R.A.**, and Kirshner, R.P. 1980, “Spectrophotometry of the Supernova Remnant IC 443”, *Astrophysical Journal*, **242**, 1023–1040.
- 6: **Fesen, R.A.**, Kirshner, R.P., and Winkler, P.F. 1979, “A Search for Stellar Remnants of Supernovae”, *Astrophysical Journal*, **234**, 174–181.
- 5: Kirshner, R.P., and **Fesen, R.A.** 1978, “The Spectrum of 3C58”, *Astrophysical Journal*, **224**, L59–L62.
- 4: **Fesen, R.A.**, and Kirshner, R.P. 1978, “Spectroscopy of the Crab Nebula”, *Pub. Astron. Soc. of the Pacific*, **90**, 32–35.
- 3: Murphy, R.E., and **Fesen, R.A.** 1974, “Spatial Variations in the Jovian 20 Micrometer Flux”, *Icarus*, **21**, 42–46.
- 2: Boesgaard, A.M., and **Fesen, R.A.** 1974, “A Search for Technetium in the Ba II Star ζ -Capricorni”, *Pub. Astron. Soc. of the Pacific*, **86**, 76–77.
- 1: **Fesen, R.A.** 1973, “Photoelectric Observations of Four δ -Scuti Type Stars”, *Pub. Astron. Soc. of the Pacific*, **85**, 732–735.

Publications: Conference Proceedings

20. Rudie, G.C., & **Fesen, R.A.**, 2007, “Evidence for Pre-SN Mass Loss in the Galactic SNR 3C 58”, in *Circumstellar Media and Late Stages of Massive Stellar Evolution* (Eds. G. Garcia-Segura & E. Ramirez-Ruiz) *Revista Mexicana de Astronomia y Astrofisica (Serie de Conferencias)* Vol. 30, pp. 90-95 (2007)
19. **Fesen, R.A.** 2005, “Recent X-Ray, Optical, and Near-Infrared Observations of Supernova Remnants” 1604-2004: Supernovae as Cosmological Lighthouses, *ASP Conference Series*, eds: M. Turatto, S. Benetti, L. Zampieri, and W. Shea, Vol. 342, pp. 409-412.
18. Delaney, T., Rudnick, L., Jones, T. W., **Fesen, R.A.**, Hwang, U., Petre, R., Morse, J., 2005, *X-Ray and Radio Connections* (eds. L.O. Sjouwerman and K.K Dyer) Published electronically by NRAO, <http://www.aoc.nrao.edu/events/xraydio> Held 3-6 February 2004 in Santa Fe, New Mexico, USA

17. **Fesen, R.A.** 2003, “Morphology of Supernova Remnants”, in proceedings of “3-D Signatures in Stellar Explosions: A Workshop honoring J. Craig Wheeler’s 60th birthday”, Austin, TX, ed. P. Hoeflich, Cambridge University Press, p.64–68.
16. **Fesen, R.A.**, Chevalier, R.A., Holt, S.S., & Tananbaum, H. 2002, “New Optical Flux Limits for the Central X-ray Point Source in Cas A”, in Neutron Stars in Supernova Remnants, ASP Conference Series, Vol 271, eds, P.O. Slane and B.M. Gaensler, p.305–398.
15. **Fesen, R.A.** 2001, “The Supernova - Supernova Remnant Connection” in *11th Annual Astrophysics Conference in Maryland: Young Supernova Remnants*, eds. S.S. Holt and U Hwang, AIP Conference Proceedings, Volume 565, p.119–128.
14. **Fesen, R.A.** 1995, “Optical and UV Studies of Supernova Remnants”, in *IAU Colloquium 145 on Supernovae and Supernova Remnants*, ed. R. McCray, p.381–389.
13. Hamilton, A.J.S., and **Fesen, R.A.** 1991, “Photoionization Models of the Iron-Rich Ejecta in SN 1885” in the *10th Santa Cruz Workshop*, ed. S. Woosley, (Springer-Verlag, New York), p.656.
12. **Fesen, R.A.** 1991, “Supernovae: Overview of Types, Statistics, and General Properties”, in *The Reference Encyclopedia of Astronomy and Astrophysics* (Van Nostrand Reinhold).
11. Nichols-Bohlin, J., and **Fesen, R.A.** 1988, “Expanding Shells of Interstellar Gas in the Lines-of-Sight to Wolf-Rayet Stars” in *IUE Symposium: A Decade of UV Astronomy with the IUE Satellite*, ESA SP-281, Vol 2, p.243–247.
10. **Fesen, R.A.**, and Hamilton, A.J.S. 1988, “Ejecta in SN 1006: The Knotty Issue” in *IUE Symposium: A Decade of UV Astronomy with the IUE Satellite*, ESA SP-281, Vol 1, p.121–126.
9. Henry, R.B.C., and **Fesen, R.A.** 1988, “[Ni II] Emission in Supernova Remnants” in *Supernova Remnants and the Interstellar Medium*, ed. R.S. Roger and T.L. Landecker, p.183–186.
8. Hamilton, A.J.S., and **Fesen, R.A.** 1988, “The Reionization of Unshocked Ejecta in SN 1006” in *Supernova Remnants and the Interstellar Medium*, ed. R.S. Roger and T.L. Landecker, p.59–63.

7. **Fesen, R.A.**, Kirshner, R.P., and Becker, R.H. 1988, “3C58’s Filamentary Radial Velocities, Line Intensities, and Proper Motions”, in *Supernova Remnants and the Interstellar Medium*, ed. R.S. Roger and T.L. Landecker, p. 55–58.
6. **Fesen, R.A.** and Ketelsen, D.A. 1985, “A Search for High-Velocity H α Emission in the Crab Nebula”, in *The Crab Nebula and Related Supernova Remnants*, ed. M.C. Kafatos and R.B.C. Henry, p. 89–95.
5. Heckathorn, J.N., and **Fesen, R.A.** 1984, “High-Velocity Gas Towards the WR Star HD 50896” in *Future of UV Astronomy Based on Six Years of IUE Research*, ed. J.M. Mead, R.D. Chapman, and Y. Kondo, p. 207–209.
4. **Fesen, R.**, and Gull, T. 1983, “The Crab Nebula’s Jet” in *I.A.U. Symposium 101 Proceedings*, ed. J. Danziger and P. Gorenstein, p. 145–148.
3. Blair, W.P., Kirshner, R.P., Winkler, P.F., Raymond, J.C., **Fesen, R.A.**, and Gull, T.R. 1983, “X-Ray, Optical, and UV Observations of the Young Supernova Remnant in the Irregular Galaxy NGC 4449”, in *I.A.U. Symposium 101 Proceedings*, ed. J. Danziger and P. Gorenstein, p. 579–582.
2. **Fesen, R.A.**, Blair, W.P., and Kirshner, R.P. 1982 “Optical Spectrophotometry of the Cygnus Loop”, in *Supernovae: A Survey of Current Research*, ed. M.J. Rees and Stoneham, p. 495–499.
1. Houk, N., and **Fesen, R.A.** 1978, “HR Diagrams Derived from the Michigan Spectral Catalogue”, *The HD Diagram – IAU 80*, ed. A.G. Davis and D.S. Hays, p. 91–98.

Meeting Abstracts

68. **Fesen, R.A.**; Hoefflich, P.; Hamilton, A. J. S., “Imaging The Fe I Distribution In The SN 1885 (S And) Remnant” 2011, Bulletin of the American Astronomical Society, Vol. 43, 337.33.
67. Milisavljevic, Dan, & **Fesen, R.A.**, “Late-Time Optical Spectra of Core-Collapse Supernovae”, 2011, Bulletin of the American Astronomical Society, Vol. 43, 337.19.
66. Winkler, P. Frank; Long, K. S.; **Fesen, R.A.**; Hamilton, A. J. S., “Time Evolution of the Reverse Shock in SN 1006”, 2011, Bulletin of the American Astronomical Society, Vol. 43, 256.19

65. Patnaude, Daniel; **Fesen, R.A.**; Laming, J.; Vink, J., “The Origin and Evolution of the Nonthermal Emission in Cassiopeia A”, 2011, Bulletin of the American Astronomical Society, Vol. 43, 130.05.
64. Milisavljevic, Dan, & **Fesen, R.A.**, 2010, “A Kinematic Map of the Optical Ejecta in the Cas A Supernova Remnant”, Bulletin of the American Astronomical Society, Vol. 41, p.469
63. **Fesen, R.A.**, Zastrow, J. A., Hammell, M. C., 2010, “Optical Flickering and Mass Ablation of High-Velocity Ejecta Knots in Cassiopeia A”, Bulletin of the American Astronomical Society, Vol. 41, p.468
62. Parrent, J.T., **Fesen, R.A.**, Marion, H., 2010, “Carbon Signatures in Type Ia Supernovae Spectra”, 2010, Bulletin of the American Astronomical Society, Vol. 41, p.359
61. Patnaude, D., & **Fesen, R.A.**, “Large and Small Scale Changes Seen in 8 Years of Chandra Observations of Cassiopeia A”, 2008 American Astronomical Society, HEAD Meeting 10, 38.06
60. Rudie, G. C., **Fesen, R.A.**, & Yamada, T. 2007 “Kinematics Of The Filamentary Jet In The Crab Nebula” American Astronomical Society Meeting 210, 15.05; Bulletin of the American Astronomical Society, Vol. 38, p.113
59. **Fesen, R.A.**, Rudie, G., Hurford, A., & Soto, A. “Optical Imaging and Spectroscopy of the Galactic Supernova Remnant 3C58”, 2006, BAAS, Vol. 38, p.1115.
58. **Fesen, R.A.**, “A high-altitude station-keeping astronomical platform”, 2006, Ground-based and Airborne Telescopes. Edited by Stepp, Larry M.. Proceedings of the SPIE, Volume 6267, pp. 62670T (2006)
57. Romeo, R.C., Martin, R.N., Twarog, B., Anthony-Twarog, B., Taghavi, R., Hale, R., Etzel, P., **Fesen, R.**, & Shawl, S. 2006, “Progress in the ULTRA 1-m ground-based telescope”, Ground-based and Airborne Telescopes. Edited by Stepp, Larry M., Proceedings of the SPIE, Volume 6267, pp. 62670D (2006)
56. Hoefflich, P., Baade, D., **Fesen, R.A.**, Gerardy, C., Kawabata, K., Khokhlov, A., Maeda, K., Motohara, K., Nomoto, K., Patat, F., Tominaga, N., Wang, L., & Wheeler, J. C., 2005, “3D Signatures of off-center Delayed-Detonation Models”, BAAS, 206, 2707.

55. Patnaude, D., & **Fesen, R.A.**, 2004, "Bow Shock Phenomena in the Cas A Supernova Remnant", BAAS, 205, 10606.
54. **Fesen, R.A.**, Hammell, M., Morse, J., Borkowski, K., Chevalier, R., Dopita, M., Lawrence, S., Raymond, J., & van den Bergh, S. 2004, "Discovery of Outlying, High-Velocity O-Rich Ejecta in Cas A", BAAS, 205, 10605.
53. Sasaki, M., Kothes, R., **Fesen, R.A.**, Patnaude, D. J., Plucinsky, P.P., Gaetz, T.J., Edgar, R.J., Smith, R. K., Slane, P. O., 2004, "Chandra observation of the Lobe of the SNR CTB 109", BAAS, 205, 7003.
52. Etzel, P. B., Martin, R., Romeo, R., **Fesen, R.A.**, Hale, R., Taghavi, R., Anthony-Twarog, B. J., Shawl, S. J., Twarog, B. A., "Structural and Aerodynamic Optimization of UltraLightweight Technology for Research in Astronomy (ULTRA)", 2004, BAAS, 205, 4803.
51. Twarog, B.A., Anthony-Twarog, B.J., Shawl, S.J., Hale, R., Taghavi, R., **Fesen, R.A.**, Etzel, P.B., Martin, R., Romeo, R., "The UltraLightweight Technology for Research in Astronomy (ULTRA) Project", 2004, 205, 4802.
50. Gerardy, C.L., Hflich, P., **Fesen, R.A.**, Marion, G.H., Nomoto, K., Quimby, R., Schaefer, B.E., Wang, L., Wheeler, J.C "SN 2003du: Signatures of the Circumstellar Environment in a Normal Type Ia Supernova?", 2004, BaAAS, 204, 6308.
49. Winkler, P.F., Long, K.S., **Fesen, R.A.**, and Hamilton, A.J.S. "Probing Multiple Core Samples through the SN 1006 Remnant by UV Absorption Spectroscopy", 2003, BAAS, 203, 3911.
48. Gerardy, C.L., Marion, G.H., **Fesen, R.A.**, Hflich, P., Wheeler, J. C., Nomoto, K., Motohara, K., "Near-Infrared Spectroscopy of Stripped-Envelope Supernovae", 2002, BAAS, 201, 5603.
47. **Fesen, R.A.**, "Optical Searches for Young SNRs in Nearby Galaxies", 2002, BAAS, 200, 1404.
46. Gerardy, C.L., Marion, G.H., **Fesen, R.A.**, Hflich, P., Wheeler, J. C., Nomoto, K., Motohara, K., "Near-Infrared Spectra of Type Ib/c Supernovae", 2002, BAAS, 200, 1404.
45. Patnaude, D.J., **Fesen, R.A.**, Raymond, J.C.; Levenson, N.A.; Graham, J.R., "An Isolated, Shocked ISM Cloud in the Cygnus Loop SNR", 2001 BAAS, 199, 12611.

44. Gerardy, C.L., **Fesen, R.A.**, Hofflich, P.; Nomoto, K.; Garnavich, P.M.; Jha, S., Challis, P.M.; Kirshner, R.P.; Wheeler, J.C.; Sakai, S. “Near-Infrared Spectra of Supernovae”, 2001, BAAS, 199, 8407.
43. **Fesen, R.A.**, “Flamsteed’s Supernova of 1680”, 2001, BAAS, 199, 4005.
42. Morse, J., **Fesen, R.A.**, Chevalier, R., van den Bergh, S.; Borkowski, K.; Lawrence, S. 2000, “Hubble Space Telescope WFPC-2 Imaging of Cassiopeia A”, BAAS, 197, 8215.
41. Nichols, J., Slavin, J., **Fesen, R.A.**, & Blair, W. 2000, “FUSE Observations of High-Velocity Gas Toward the Vela SNR”, BAAS, 197, 8211
40. Lundquist, P., Sollerman, J., Lindler, D., Pun, C.S.J., Sonneborn, G., Chevalier, R.A., **Fesen, R.A.**, & Fransson, C. 1999, “Observations of the Crab Pulsar in the Far-Ultraviolet and the Optical” BAAS, 194, 5207
39. Blair, W.P., and **Fesen, R.A.** 1998, “New Constraints on the Age of the Ultraluminous Supernova Remnant in NGC 4449”, BAAS, 193, 7404.
38. Gerardy, C.L., **Fesen, R.A.**, Hofflich, P., & Wheeler, J.C., 1998, “The Near-Infrared Spectrum of SN 1998S in NGC 3877”, BAAS, 193, 4707.
37. **Fesen, R.**, Gerardy, C., McLin, K., & Hamilton, A. 1997, “HST Images and Spectra of the Remnant of SN 1885 (S And) in M31”, BAAS, 191, 4009.
36. Blair, W.P., **Fesen, R.A.**, & Schlegel, E.M. 1997, “HST/WFPC2 Images of the Ultra-Luminous Supernova Remnant in NGC 6946”, BAAS, 190, 2706.
35. Matonick, D.M., **Fesen, R.A.**, Blair, W.P., & Long, K.S. 1994, “An Optical Search For Supernova Remnants in Nearby Spiral Galaxies”, BAAS, 185, 5008.
34. Hurford, A.P., & **Fesen, R.A.** 1994, “A High Resolution X-ray and Optical Study of the Galactic Supernova Remnant G109.1–1.0”, BAAS, 185, 5004.
33. **Fesen, R.A.**, & Gunderson, K.S. 1993, “Spectroscopy of the Cas A Jet”, BAAS, 183, 8306.
32. Blair, W.P., & **Fesen, R.A.** 1993, “The Optical Counterpart to a Bright X-ray Supernova Remnant in NGC 694”, BAAS, 183, 8304.

31. Finn, R.A., **Fesen, R.A.**, Darling, J.D., Thorstensen, J.R., & Worthey, G. 1993, "Optical Spectra of SN 1993J During the First Week", BAAS, 183, 3901.
30. Saken, J.M., Shull, J.M., & **Fesen, R.A.** 1992, "Galactic Supershells", BAAS., 181, 9706.
29. **Fesen, R.A.**, & Downes, R.A. 1992, "Testing of Shocked Interstellar Cloud Models Using Deep Halph Images of the Cygnus Loop", BAAS, 181, 7003.
28. **Fesen, R.A.**, Martin, C.L., & Shull, J.M. 1991, "The Crab nebula "bays": evidence of a pre-supernova disk?", BAAS, 23, 916.
27. Saken, J.M., Shull, J.M., Garmany, C. Nichols-Bohlin, J., & **Fesen, R.A.** 1991, "An IRAS supershell associated with Cyg OB1" BAAS, 23, 886.
26. **Fesen, R.A.** 1990, "Optical recovery of SN 1970G and SN 1979C", BAAS, 22, 1213
25. Shull, J.M., **Fesen, R.A.**, Saken, J.M. 1988, "Pulsar re-energization of old supernova remnant shells", BAAS, 20, 1050.
24. **Fesen, R.A.**, & Becker, R.H. 1988, "Optical detection of the remnant of SN 1980K in NGC 6946", BAAS, 20, 962.
23. Nichols-Bohlin, J., & **Fesen, R.A.** 1988, "Wolf-Rayet stars and highly evolved supernova remnants. A missing evolutionary link ?", BAAS, 20, 730.
22. Nichols-Bohlin, J., & **Fesen, R.A.** 1986, "Detection of high-velocity interstellar gas toward the Wolf-Rayet star HD 97152", BAAS, 18, 1029.
21. **Fesen, R.A.**, Wu, C.-C., & Leventhal, M. 1986, "Confirmation of high-velocity UV Fe and Si absorption lines from the remnant of SN 1006.", BAAS, 18, 949.
20. **Fesen, R.A.**, Becker, R.H., & Blair, W.P. 1985, "Detection of additional QSF'S and extended diffuse emission outside the Supernova Remnant Cas A", BAAS, 17, 885.
19. Blair, W.P., **Fesen, R.A.**, & Becker, R.H 1985, "The electron temperature and velocity structure of the central region of CTB 80", BAAS, 17, 883.

18. Gull, T.R., & **Fesen, R.A.** 1984, "Changes in structure of the Crab Nebula's Jet", BAAS, 16, 996.
17. **Fesen, R.A.**, & Itoh, H. 1984, "A two-dimensional spectrum of a nonradiative shock filament in the Cygnus Loop", BAAS, 16, 996.
16. Nichols-Bohlin, J., & **Fesen, R.A.** 1984, "Possible detection of an old supernova remnant associated with HD 50896", BAAS, 16, 725.
15. **Fesen, R.A.**, & Gull, T.R. 1984, "New optical imaging of the supernova remnants CTB 80, 3C 58, and the Crab Nebula.", BAAS, 16, 405.
14. Straka, W.C., Dickel, J.R., **Fesen, R.A.**, Blair, W.P. 1983, "High resolution radio observations of the Cygnus Loop northeast." BAAS, 15, 929.
13. Paterson, J. et al. (includes **Fesen, R.A.**) 1982, "Identification of the Bright X-ray Source 3A1148+719 with the Cataclysmic Variable YY Draconis", BAAS, 14, 618.
12. **Fesen, R.A.**, Kirshner, R.P., Blair, W.P., & Gull, T.R. 1982, "Optical Observations of the Peculiar CTB 80 SNR", BAAS, 14, 636.
11. Heckatorn, J.N., **Fesen, R.A.**, Gull, T.R. 1982, "Discovery of a large high-excitation Planetary Nebula, G 136+5", BAAS, 14, 637.
10. **Fesen, R.A.**, & Gull, T.R. 1982, "The Crab Nebula's Jet", BAAS, 14, 637.
9. **Fesen, R.A.** 1982, "Discovery of Large Radial Velocities in the Optical Filaments of the Supernova Remnant 3C58", BAAS, 14, 936.
8. Raymond, J.C., **Fesen, R.A.**, & Gull, T.R. 1981, "Ultraviolet Observations of a Non-Radiative Shock Wave", BAAS, 13, 887.
7. Gull, T.R., **Fesen, R.A.**, & Heckathorn, J.N. 1981, "[O III] Imagery of the Galactic Plane", BAAS, 13, 887.
6. **Fesen, R.A.**, Gull, T.R., & Blair, W.P. 1981, "Radial Distribution of Relative Emission Line Intensities in the Cygnus Loop", BAAS, 13, 887.
5. Gull, T.R., **Fesen, R.A.**, & Blair, W.P. 1980, "What is Sharpless 216?", BAAS, 12, 446.

4. **Fesen, R.A.**, & Kirshner, R.P. 1980, “ Spectroscopy of the SNR IC 443”, BAAS, 12, 446.
3. Henry, R., MacAlpine, G.M., & **Fesen, R.A.** 1980, “Photoionization Models of the Crab Nebula”, BAAS, 12, 446.
2. Kirshner, R.P., **Fesen, R.A.**, & Blair, W.P. 1980, “Spectroscopic Observations of the Cygnus Loop”, BAAS, 12, 506.
1. **Fesen, R.A.**, & Kirshner, R.P. 1978, “Spectra of the SNR 3C58”, BAAS, 10, 603.

Astronomical Telegrams and Announcements

28. Milisavljevic, D., **Fesen, R.**, Parrent, J., & Thorstensen, J. R., “MDM optical spectroscopy of Swift J1357.2-0933”, 2010, Astronomical Telegram, 3146, 1.
27. Milisavljevic, D., **Fesen, R.**, and Parrent, J., “Supernova 2010jf”, 2010, Central Bureau Electronic Telegrams, 2527, 1
26. Milisavljevic, D., and **Fesen, R.**, “Supernova 2010jc in NGC 1033”, 2010, Central Bureau Electronic Telegrams, 2522, 1.
25. Milisavljevic, D., and **Fesen, R.**, “Confirmation and Spectroscopic Classification of MASTER SN candidate in PGC066672”, 2010, Astronomical Telegram, 2992, 1.
24. Milisavljevic, D., and **Fesen, R.**, “Supernova 2010ip”, 2010, Central Bureau Electronic Telegrams, 2496, 1.
23. Milisavljevic, D., and **Fesen, R.**, “Supernovae 2010ig and 2010io”, 2010, Central Bureau Electronic Telegrams, 2489, 1.
22. Milisavljevic, D., **Fesen, R.**, and Parrent, J., “Supernova 2010eb in NGC 488”, 2010, Central Bureau Electronic Telegrams, 2330, 1
21. Milisavljevic, D., and **Fesen, R.**, “Supernova 2010dy”, 2010, Central Bureau Electronic Telegrams, 2317, 1
20. Milisavljevic, D., and **Fesen, R.**, “Supernova 2010ag in UGC 10679”, 2010, Central Bureau Electronic Telegrams, 2196, 1

19. Milisavljevic, D., and **Fesen, R.**, “Supernova 2010Y in NGC 3392”, 2010, Central Bureau Electronic Telegrams, 2168, 1
18. Milisavljevic, D., and **Fesen, R.**, “Supernovae 2010V and 2010X”, 2010, Central Bureau Electronic Telegrams, 2167, 1
17. Milisavljevic, D., and **Fesen, R.**, “Supernovae 2009mx and 2009my”, 2010, Central Bureau Electronic Telegrams, 2164, 1
16. Milisavljevic, D., Parrent, J., & **Fesen, R.** “Supernovae 2009hq and 2009mh”, 2009, Central Bureau Electronic Telegrams, 2079, 1
15. Milisavljevic, D., Parrent, J., & **Fesen, R.** “Supernovae 2009ii, 2009ik, and 2009lx”, 2009, Central Bureau Electronic Telegrams, 2073, 1
14. Milisavljevic, D., **Fesen, R.**, and Parrent, J., “Spectroscopy of CSS090615:211849-05571”, 2009, The Astronomer’s Telegram, No. 2091
13. Milisavljevic, D., **Fesen, R.**, and Parrent, J., “Supernova 2009gm -2009gs”, 2009, Central Bureau Electronic Telegrams, 1891, 1
12. Milisavljevic, D., **Fesen, R.**, and Parrent, J., “Supernova 2009gh and 2009gi”, 2009, Central Bureau Electronic Telegrams, 1857, 1
11. Milisavljevic, D., and **Fesen, R.**, “Supernova 2009dm in MCG +07-24-16”, 2009, Central Bureau Electronic Telegrams, 1777, 1
10. **Fesen, R.**, Milisavljevic, D., & Rudie, G., “Supernova 2006jc in UGC 4904”, 2006, Central Bureau Electronic Telegrams, 674, 1.
9. **Fesen, R.**, Milisavljevic, D., & Rudie, G., “Supernova 2006jc in UGC 4904”, 2006, Central Bureau Electronic Telegrams, 672, 1.
8. K. Motohara, K. Nomoto, C. Gerardy, **Fesen, R.**, & P. Henry, 2002, “Supernova 2002ap in M74”, IAU Circ., 7834
8. Gerardy, C. L., & **Fesen, R.** 1999, “Supernova 1999by in NGC 2841” IAU Circ., 7158
7. Garnavich, P. Jha, S., Kirshner, R., Gerardy, C., **Fesen, R.**, Calkins, M., & Szentgyorgyi, A. 1998, “Supernova 1998S in NGC 3877”, IAU Circ., 7058.

6. Halpern, J.P., & **Fesen, R.** 1998, "GRB 980613 Optical Observations", GCN 134.
5. Halpern, J.P., & **Fesen, R.** 1998, "GRB 980613 Optical Observations", GCN 109.
4. Parker, J.W., Levison, H.F., **Fesen, R.**, Meech, K., Hainaut, O., & Bauer, J. 1997, "Comet C/1997 BA6 (Spacewatch)" IAU Circ., 6561.
3. **Fesen, R.**, Thorstensen, J., Benetti, S., Contarini, G., Gratton, R., Turratto, M. Pooley, G.G., & Green, D.A. 1993, "Supernova 1993J in NGC 3031", IAU Circ., 5751.
2. **Fesen, R.** 1991, "Supernova 1953K in IC 4536", IAU Circ., 5252.
1. Filippenko, A.V., Junkkarinen, V.T., **Fesen, R.**, Bjorkman, K., & Doggett, J. 1988, "No Supernova in UGC 3933", IAU Circ., 4536.