

CURRICULUM VITAE

Dr. Joseph M. Hahn
Space Science Institute
10500 Loring Drive
Austin, TX 78750

URL: <http://gemelli.spacescience.org/~hahnjm>
email: jhahn@spacescience.org
phone: 512-291-2255

EDUCATION

- May 1997 Graduated from the University of Notre Dame, Notre Dame, Indiana, with a Ph.D. in Physics; thesis advisor Dr. Terrence W. Rettig, with Dr. William R. Ward as co-advisor.
- August 1990 Graduated from the University of Texas, Austin, Texas, with a Physics B.S. and Astronomy B.A.

PROFESSIONAL EXPERIENCE

- July 2006—present Research Scientist with the Space Science Institute (SSI).
- July 2003—July 2006 Associate Professor at Saint Mary's University in the Department of Astronomy and Physics. Also a Tier II Canada Research Chair (CRC), and a member of the Institute for Computational Astrophysics (ICA).
- June 2006 Local host for the 2006 annual meeting of the AAS Division on Dynamical Astronomy (DDA).
- 1996—2003 Visiting Postdoctoral Fellow at the Lunar and Planetary Institute.
- 2001—2003 Member of the organizing committee for the annual Lunar and Planetary Science Conference.
- 2001—2002 Review panelist for NASA's Planetary Geology and Geophysics research program.
- April 2001 Organizer and local host for the annual DDA conference.
- November 1999 Visiting Astronomer at the European Southern Observatory.
- August 1996 Edited proceedings of the ASP symposium *Completing the Inventory of the Solar System*.
- Summer 1996 Guest lecturer at Indiana University in South Bend, Indiana.
- July 1994 Guest Observer with the Hubble Space Telescope.

PEER-REVIEWED PUBLICATIONS

THE SECULAR EVOLUTION OF A CLOSE RING-SATELLITE SYSTEM: THE EXCITATION OF SPIRAL DENSITY WAVES AT A NEARBY GAP EDGE, 2008, J. M. Hahn, to appear in the *Astrophysical Journal*.

THE SECULAR EVOLUTION OF A CLOSE RING-SATELLITE SYSTEM: THE EXCITATION OF SPIRAL BENDING WAVES AT A NEARBY GAP EDGE, 2007, J. M. Hahn, *Astrophysical Journal*, **665**, 856.

NEPTUNE'S MIGRATION INTO A STIRRED-UP KUIPER BELT: A DETAILED COMPARISON OF SIMULATIONS TO OBSERVATIONS, 2005, J. M. Hahn and R. Malhotra, *Astronomical Journal*, **130**, 2392.

A SEARCH FOR CIRCUMSTELLAR DUST DISKS WITH ADONIS, O. Schutz, H. Bohnhardt, E. Pantin, M. Sterzik, S. Els, J. Hahn, and Th. Henning, 2004, *Astronomy & Astrophysics*, **424**, 613.

THE SECULAR EVOLUTION OF THE PRIMORDIAL KUIPER BELT, 2003, J. Hahn, *Astrophysical Journal*, **595**, 531

SPIRAL BENDING WAVES LAUNCHED AT A VERTICAL SECULAR RESONANCE, 2003, W. Ward and J. Hahn, *Astronomical Journal*, **125**, 3389.

GROUND-BASED NEAR-INFRARED IMAGING OF THE HD 141569 CIRCUMSTELLAR DISK, 2003, A. Boccaletti, J.-C. Augereau, J. M. Hahn, and F. Marchis, *Astrophysical Journal*, **585**, 494.

CLEMENTINE OBSERVATIONS OF THE ZODIACAL LIGHT AND THE DUST CONTENT OF THE INNER SOLAR SYSTEM, 2002, J. M. Hahn, H. A. Zook, B. Cooper, and B. Sunkara, *Icarus*, **158**, 360.

DISK-PLANET INTERACTIONS AND THE FORMATION OF PLANETARY SYSTEMS, 2000, W. R. Ward and J. M. Hahn, in *Protostars and Planets IV*, ed. V. Mannings, A. P. Boss and S. S. Russell (Tucson: University of Arizona Press), p. 1135.

COMET SHOEMAKER-LEVY 9 DUST SIZE AND VELOCITY DISTRIBUTIONS, 2000, J. M. Hahn and T. W. Rettig, *Icarus*, **146**, 501.

ORBITAL EVOLUTION OF PLANETS EMBEDDED IN A PLANETESIMAL DISK, 1999, J. M. Hahn and R. Malhotra, *Astronomical Journal*, **117**, 3041.

DYNAMICS OF THE TRANS-NEPTUNE REGION: APSIDAL WAVES IN THE KUIPER BELT, 1998a, W. R. Ward and J. M. Hahn, *Astronomical Journal*, **116**, 489.

NEPTUNE'S ECCENTRICITY AND THE NATURE OF THE KUIPER BELT, 1998b, W. R. Ward and J. M. Hahn, *Science*, **280**, 2105.

TIDAL DISRUPTION OF STRENGTHLESS RUBBLE PILES—A DIMENSIONAL ANALYSIS, 1998, J. M. Hahn and T. W. Rettig, *Planetary and Space Science*, **46**, 1677.

COMET SHOEMAKER–LEVY 9: AN ACTIVE COMET, 1997, T. W. Rettig and J. M. Hahn, *Planetary and Space Science*, **45**, 1271.

COMPLETING THE INVENTORY OF THE SOLAR SYSTEM, 1996, Astronomical Society of the Pacific Conference Series, **107**, Edited by T. W. Rettig and J. M. Hahn.

COMET SHOEMAKER–LEVY 9 DUST, 1996, J. M. Hahn, T. W. Rettig, and M. J. Mumma, *Icarus*, **121**, 291

DUST OUTFLOW VELOCITY FOR COMET SHOEMAKER–LEVY 9, 1996, T. W. Rettig, G. Sobczak, and J. M. Hahn, *Icarus*, **121**, 281.

THE NATURE OF COMET SHOEMAKER–LEVY 9 SUB–NUCLEI FROM ANALYSIS OF PRE–IMPACT HST IMAGES, 1996, T. W. Rettig, M. J. Mumma, G. J. Sobczak, J. M. Hahn, and M. DiSanti, *JGR Planets*, **101**, 9271.

RESONANT TRAPPING IN A SELF–GRAVITATING PLANETESIMAL DISK, 1995, J. M. Hahn, W. R. Ward, and T. W. Rettig, *Icarus*, **117**, 25.

DISK TIDES AND ACCRETION RUNAWAY, 1995, W. R. Ward and J. M. Hahn, *Ap. J. Lett.*, **440**, L25.

DAMPING OF ORBITAL INCLINATIONS BY BENDING WAVES, 1994, W. R. Ward and J. M. Hahn, *Icarus*, **110**, 95.

NGC 4314. I. VISIBLE AND SHORT WAVELENGTH INFRARED SURFACE PHOTOMETRY OF THE NUCLEUS AND BAR, 1992, G. F. Benedict, J. L. Higdon, E. V. Tollestrup, J. M. Hahn, and P. M. Harvey, *Astron. J.*, **103**, 757.

GREY LITERATURE

PREDICTIONS FOR THE LUNAR HORIZON GLOW OBSERVED BY THE LUNAR RECONNAISSANCE ORBITER CAMERA, 2008, Stubbs, Glenar, Hahn, Cooper, Farrell, Vondrak, *Lunar and Planetary Science XXXIX*.

SMALL SHEPHERD SATELLITES IN SATURN’S ENCKE GAP?, 2006, J. M. Hahn, *Lunar and Planetary Science XXXVII*.

WHEN GIANTS ROAMED, 2005, J. M. Hahn, *Nature*, **435**, 432.

THE SECULAR EVOLUTION OF THE PRIMORDIAL KUIPER BELT, 2003, J. M. Hahn, *Lunar and Planetary Science XXXIV*.

PROBING THE SOLAR SYSTEM’S OUTERMOST FRONTIER: THE FUTURE OF KUIPER BELT STUDIES, 2002, W. M. Grundy, J. M. Hahn, and 20 coauthors, in *The Future of Solar System Exploration (2003–2013)–Community Contributions to the NRC Solar System Exploration Decadal Survey (M. Sykes, Ed.)*, *ASP Conference Proceedings*, **272**, 337.

DUST ASTRONOMY: NEW VENUES IN INTERPLANETARY AND INTERSTELLAR DUST RESEARCH, 2002, E. Greun, J. M. Hahn, and 21 coauthors, in *The Future of Solar System Exploration (2003-2013)–Community Contributions to the NRC Solar System Exploration Decadal Survey* (M. Sykes, Ed.), *ASP Conference Proceedings*, **272**, 283.

SECULAR RESONANCE SWEEPING IN A SELF-GRAVITATING PLANETESIMAL DISK, WITH APPLICATION TO THE KUIPER BELT, 2002, J. M. Hahn and W. R. Ward, *Lunar and Planetary Science XXXIII*.

COLLISIONAL DISRUPTION OF A SATELLITE AND THE EVOLUTION OF ITS DEBRIS, 2002, K. Peek and J. M. Hahn, *Lunar and Planetary Science XXXIII*.

MAPPING THE INNER ZODIACAL LIGHT WITH CLEMENTINE, 2001, J. M. Hahn, H. A. Zook, B. Cooper, and B. Sunkara, *Lunar and Planetary Science XXXII*.

STRUCTURE OF THE EDGEWORTH-KUIPER BELT (EKB) DUST DISK AND IMPLICATIONS FOR EXTRASOLAR PLANET(S) IN ERIDANI, 2000, J. C. Liou, H. A. Zook, J. S. Greaves, W. S. Holland, H. Boehnhardt, and J. M. Hahn, in *Proceedings of the IAU Colloquium 181*, ed. S. Green, I. Williams, J. McDonnell and N. McBride (Oxford: Pergamon), p. 414.

THE OUTER EDGE OF THE KUIPER BELT, 2000, J. M. Hahn, *Lunar and Planetary Science XXXI*.

INTERPRETING THE KUIPER BELT LUMINOSITY FUNCTION, 1999, J. M. Hahn and L. Brown, *Lunar and Planetary Science XXX*.

ORBITAL EVOLUTION OF PLANETS EMBEDDED IN A MASSIVE DEBRIS DISK, 1998, J. M. Hahn and R. Malhotra, *Lunar and Planetary Science XXIX*.

RESONANCE TRAPPING DUE TO NEBULA DISK TORQUES, 1996, J. M. Hahn and W. R. Ward, *Lunar and Planetary Science XXVII*, 479.

RESONANCE PASSAGE VIA COLLISIONS, 1995, J. M. Hahn and W. R. Ward, *Lunar and Planetary Science XXVI*, 541.

COORBITAL BENDING WAVES AND INCLINATION DECAY, 1994, W. R. Ward and J. M. Hahn, *Lunar and Planetary Science XXV*, 1461

COLLOQUIA AND INVITED TALKS

THE KUIPER BELT, THE EARLY HISTORY OF THE OUTER SOLAR SYSTEM, AND EXTRA-SOLAR KUIPER BELTS, October 23, 2007, at the Center for Space Research (CSR), Austin TX.

THE KUIPER BELT, AND THE EARLY EVOLUTION OF THE OUTER SOLAR SYSTEM, March 18, 2005, at the Royal Astronomical Society of Canada, Halifax.

SCULPTING THE KUIPER BELT VIA NEPTUNE'S ORBITAL MIGRATION, July 2004, at the US Naval Observatory. This talk was given again at Saint Mary's Astronomy & Physics colloquium on February 11, 2005, and at the Canadian Institute for Theoretical Astrophysics (CITA) High Performance Computing Focus Group, in Toronto on January 11, 2005.

CLEMENTINE OBSERVATIONS OF THE ZODIACAL LIGHT, AND THE DUST CONTENT OF THE INNER SOLAR SYSTEM, February 2004, Saint Mary's University, Halifax.

BILL WARD @ 60: STILL MAKIN' WAVES AFTER ALL THESE YEARS, January 2004, Southwest Research Institute (SwRI), in Boulder, CO.

KUIPER BELT OCCULTATION EXPERIMENTS: EXPECTATIONS FOR DYNAMICAL MODELS OF THE OUTER SOLAR SYSTEM, August 2003, at the KBO Occultation workshop during the 2003 AAS/DPS annual conference, in Monterey, CA.

DIVINING THE ORBITAL HISTORY OF THE OUTER SOLAR SYSTEM FROM MODELS AND OBSERVATIONS OF THE KUIPER BELT, May 2003, Saint Mary's University, Halifax.

THE SECULAR EVOLUTION OF THE PRIMORDIAL KUIPER BELT, April 2003, Lunar and Planetary Institute (LPI), Houston.

CLEMENTINE OBSERVATIONS OF THE ZODIACAL LIGHT AND THE DUST CONTENT OF THE INNER SOLAR SYSTEM, October 2001, Lunar and Planetary Institute (LPI), Houston.

PLANET MIGRATION, 2001, Gordon Conference on Planetary Origins.