

**American Astronomical Society
Division on Dynamical Astronomy
30th Annual Meeting, April 28 to May 1, 1999
Stanley Hotel, Estes Park, CO**

PROGRAM

Tuesday, April 27

- 4:00p DDA Committee Meeting
- 6:30p Reception
- 6:30p Registration (through 8:30p)

Wednesday, April 28

- 8:20a Registration
- 8:30a Opening remarks (Hal Levison, Fritz Benedict)

Session 1: Outer Solar System Chaired by *Man Hoi Lee*

- 8:40a Planetesimal Dynamics and the Formation of Uranus and Neptune,
Martin Duncan (Invited)
- 9:30a Uranus and Neptune: Fugitives from the Jupiter-Saturn Zone?
E.W. Thommes, M.J. Duncan
- 9:50a The Large Scale Structures in the Outer Solar System: I. Cometary Belts with Resonant Features
Associated with the Orbits of Four Giant Planets,
L.M. Ozernoy, N.N. Gorkavyi
- 10:10a The Large Scale Structures in the Outer Solar System: II. Resonant Dust Belts Associated with
the Orbits of Four Giant Planets,
N.N. Gorkavyi, L.M. Ozernoy
- 10:30a Coffee Break

Session 2: Earth Chaired by *Robin Canup*

- 10:50a The Dynamical Evolution of the Earth-Moon Progenitors. I. Motivation and Methodology,
J.J. Lissauer, E. Rivera
- 11:10a The Dynamical Evolution of the Earth-Moon Progenitors. II. Results and Interpretation,
E. Rivera, J.J. Lissauer
- 11:30a Snowballs from Hell,
A.W. Harris
- 11:50a Apparent Deceleration of the Lunar Mean Motion and the Uncompensated Time Dilation in
Timescales,
S.D. Deines (Student Stipend)
- 12:10p Lunch

Session 3: Solar System Chaired by *Martin Duncan*

- 1:40p Dynamical Chaos in the Solar System: Past, Current, and Future Research,
Matt Holman (Invited)
- 2:30p Advanced Symplectic Integration of Collisional N-body Systems,
K.P. Rauch, D.P. Hamilton

- 2:50p** Planetesimal Dynamics in a Protoplanetary Disk Perturbed by Massive Companions,
S.J. Kortenkamp, G.W. Wetherill
- 3:10p** The Late Stage of Terrestrial Planet Formation,
C.B. Agnor, R.M. Canup, H.F. Levison
- 3:30p** Coffee Break

Session 4: Rings Chaired by *Mark Showalter*

- 3:50p** Dynamics of Jovian Ring Dust,
J.A. Burns, D.P. Hamilton, M.R. Showalter, P. Thomas, P.D. Nicholson
- 4:10p** Electromagnetic Resonances in Jupiter's Rings,
D.P. Hamilton, K. Rauch, J.A. Burns
- 4:30p** Analysis of Ring Wake Simulations,
M.C. Lewis, G.R. Stewart

Session 5: Poster Presentations 4:50p-6:30p

- An Archival Data Survey Around the Hubble Deep Field-South (HDF-S) Region,
K.D. Borne, R.A. White, C.Y. Cheung, E.J. Shaya
- Observational Effects of an Inclined F Ring: Eclipses and Occultations,
A.S. Bosh, C.B. Olkin, P.D. Nicholson
- Likelihood Centroiding of CCD Point Spread Functions,
W.H. Jeffreys
- Dynamical Friction and Planetary Migration,
N. Haghighipour
- Global Dynamics of Charged Dust Particles in Planetary Magnetospheres,
J.E. Howard, M. Horanyi, G.R. Stewart
- Nearby Stars: A Sample Whose Time Has Come (Again),
P.A. Ianna, T.J. Henry
- The Determination and Long Term Integration of the Orbits of Caliban and Sycorax,
R.A. Jacobson
- Modeling Asymmetric and Lopsided Galaxy Disks,
S. Levine
- Close Pairings of Galilean Satellites Observed Using Speckle Interferometry,
B.D. Mason, G.H. Kaplan, G.G. Douglass, D. Pascu, K. Aksnes
- Status of the Second Guide Star Catalog,
J. Morrison, B. McLean
- The U.S. Naval Observatory Pole-to-Pole Program,
T.J. Rafferty, E.R. Holdenried
- Galaxy Clusters with Rounded Central Density Profiles,
B.F. Smith, R.H. Miller
- Orbital Structure of Rotating Triaxial Potentials,
M. Valluri
- Planetary Orbits During the Past 100 Million Years,
F. Varadi

Thursday April 29**Session 6: N-body Simulations** Chaired by *Hal Levison*

- 8:20a** From NBODY1 to NBODY6: The Growth of an Industry,
Sverre Aarseth (BROUWER LECTURE)
- 9:10a** Trajectory Separations Revisited,
R.H. Miller
- 9:30a** Properties of Cores Formed by Retrograde Minor Mergers,
J. Bak (Student Stipend)
- 9:50a** Assessing the Limits of N-body Simulations of Clusters of Galaxies,
George Lake (Invited)
- 10:40a** Coffee Break

Session 7: A Disk-Planet Interaction and a Killer Asteroid Chaired by *Al Harris*

- 11:00a** Spiral Bending Waves Launched at a Vertical Secular Resonance,
J.M. Hahn, and W.R. Ward
- 11:20a** Asteroid 1997 XF11 Could Collide with Earth,
B.G. Marsden
- 11:40a** Could Asteroid 1997 XF11 Collide with Earth after 2028,
P.W. Chodas, D.K. Yeomans
- 12:00n** Lunch

AFTERNOON FREE**Banquet**

- 6:30p** No-host bar
- 7:00p** Dinner
- 8:15p** Time and Tides: An Historical Perspective of the Solar System,
William Ward (BANQUET SPEAKER).

Friday, April 30**Session 8: A Mixture** Chaired by *Bruce Smith*

- 8:20a** Binary Star Formation in Magnetic Molecular Clouds,
Alan Boss (Invited)
- 9:10a** Supernovae, Magnetic Fields and Magnestars: Dynamical Interaction of a Magnetic Bubble with the Interstellar Medium,
W.I. Newman, A.L. Newman
- 9:30a** On Computer Algebra Generation of Symplectic Integrator Methods,
M.A. Murison, J.E. Chambers
- 9:50a** A New Method for Simulating Gravitational Disk-Planet Interactions,
G.R. Stewart
- 10:10a** Resonant Periodic Orbits in the Three Body Problem,
F. Varadi
- 10:30a** Coffee Break

Session 9: The F Ring and the Shepherds Mystery Chaired by *Joe Burns*

- 10:50a** Saturn's Wayward Shepherds: Pandora and Prometheus,
R.G. French, C.A. McGhee, P.D. Nicholson, L. Dones, J. Lissauer
- 11:10a** Interactions between Prometheus and the F Ring,
M.R. Showalter, L. Dones, J.J. Lissauer
- 11:30a** The Perils of Pandora,
L. Dones, M.R. Showalter, R.G. French, J.J. Lissauer
- 11:50a** The F Ring: Saturn's Crooked Halo,
P.D. Nicholson, R.G. French, A.S. Bosh
- 12:10p** Lunch

Session 10: Astrometry and Proper Motions Chaired by *Phill Ianna*

- 1:10p** Precision Astrometry in Globular Clusters with HST's WFPC2,
Ivan King (Invited)
- 2:00p** Parallax and Component Masses of Wolf 1062 (Gl 748) from HST Fine Guidance Interferometry,
G.F. Benedict, B.J. McArthur, O.G. Franz, L.H. Wasserman, T.J. Henry, I. Strateva, P.A. Ianna, D.W. McCarthy
- 2:30p** Astrometry and Orbits of the Inner Satellites of Neptune,
D. Pascu, J.R. Rohde, P.K. Seidelmann, E.N. Wells, J.L. Hershey, B.H. Zellner, A.D. Storrs, D.G. Currie, A.S. Bosh
- 2:50p** The Yale/San Juan Southern Proper Motion Program,
W.F. van Altena, T.M. Girard, I. Platais, V. Kozhurina-Platais, J. Ostheimer, C.E. Lopez, R. Mendez
- 3:10a** The First Year of the UCAC-S Project,
N. Zacharias, S.E. Urban
- 3:30p** Coffee Break

Session 11: Ephemerides Chaired by *Phill Ianna*

- 3:50p** Limitations of the Planetary Ephemerides,
E.M. Standish
- 4:10p** Optimized Chebyshev Polynomial Representations of Ephemerides,
J.L. Hilton, M.A. Murison

Session 12: Business Meeting 4:30p-5:30p Chaired by *Fritz Benedict***Saturday, May 1****Session 13: Galactic Dynamics** Chaired by *Ivan King*

- 8:20a** Transient Spiral Patterns—Support from Hipparcos,
Jerry Sellwood (Invited)
- 9:10a** Probing the Structure of the Galaxy with Microlensing,
S.J. Peale
- 9:30a** Resonant Orbits in Triaxial Potentials
D. Merritt
- 9:50a** Evidence for Multiple Mergers among Ultraluminous IR Galaxies,
K.D. Borne, H. Bushouse, L. Colina, R.A. Lucas
- 10:10a** Coffee Break

Session 14: Missions Chaired by *Fritz Benedict*

- 10:30a** FAME—Full-sky Astrometric Mapping Explorer,
P.K. Seidelmann, M.E. Germain, T.P. Green, S.D. Horner, K.J. Johnston, D.G. Monet, M.A. Murison, J.D. Phillips, R.D. Reasenberg, S.E. Urban
- 10:50a** The Precession of a Spinning Spacecraft due to Radiation Pressure Torque,
R.D. Reasenberg
- 11:10a** Searching for Extrasolar Planets with SIM,
S.C. Unwin
- 11:30a** The USNO SIM Grid Star Selection Program,
B.D. Mason, T.E. Corbin, A.R. Hajian, C.A. Hummel, T.J. Rafferty, S.E. Urban, N. Zacharias

Session 15: Late Papers Chaired by *Fritz Benedict*

- 11:50a** Chaotic Tides in Binary Stars and the Three-Body Problem,
R. Mardling
- 12:10p** END