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PERSONAL BACKGROUND

Home Address:

634 Emery Street
Longmont, CO 80501
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Born:

March 1, 1959 in Philadelphia, Pennsylvania.

Family Status:

Married to Sarah A. Sulka, June 7, 1981.
Two Children: Rachel S. Levison born September 11, 1994
Shaina E. Levison born September 16, 1997.

EDUCATION

Ph.D. (Astronomy), The University of Michigan, Ann Arbor, Michigan, 1986.
Thesis Topic: *Scale-Free Models of Highly Flattened Elliptical Galaxies*
(Advisor: D.O. Richstone).

M.S. (Astronomy), The University of Michigan, Ann Arbor, Michigan, 1983.

A.B. (Physics with honors), Franklin and Marshall College,
Lancaster, Pennsylvania, 1981.

EMPLOYMENT

Southwest Research Institute, Department of Space Studies
November 1992 – Present. Current title: Institute Scientist

U.S. Naval Observatory, Orbital Mechanics Department,
April 1991 – November 1992.

U.S. Naval Observatory, Flagstaff Station,
September 1988 – March 1991.

National Research Council Postdoctoral Research Associateship,
NASA Ames Research Center, September 1986 – August 1988.

Visiting Lecturer, Astronomy Department, The University of Michigan,
May 1986 – July 1986.

Teaching Assistant, Astronomy Department, The University of Michigan,
May 1982 – May 1986.

Research Assistant/Instrument Development, Astronomy Department,
The University of Michigan, June 1981 – December 1983.

Planetarium Director, North Museum, Lancaster, Pennsylvania,
September 1977 – May 1981.

RECENT PROFESSIONAL ACTIVITIES

- Subpanel Chair of NASA's *Origins of Solar Systems* program review panel. 2004 & 2005.
- Chair of DPS nominating Committee 2004.
- Member of DPS nominating Committee 2001 — 2003.
- Chair of AAS's Division of Dynamical Astronomy. 2001.
- Member of NASA's *Exobiology* review panel. August 2001.
- Vice-Chair of AAS's Division of Dynamical Astronomy. April 2000 — 2001.
- Member of Hubble Space Telescope's '*Cycle 8 Telescope Allocation Committee.*' 1998.
- Member of NASA's *Planetary Geology & Geophysics* review panel. August 1998 – 2000.
- Associate Editor for JGR planets. January 1997 – January 2000.
- Member of NASA's *Extra-solar Zodiacal Clouds* advisory panel. January 1996 – 1997.
- Member of NASA's *Origins of Solar Systems* review panel. August 1996 – 1997.
- Member of AAS's Division of Dynamical Astronomy Committee. 1995 – 1997.

SELECTED INVITED TALKS

- STScI May Symposium: A Decade Of Extrasolar Planets Around Normal Stars. May 2005)
 Title: *The Early Dynamical Evolution of the Outer Solar System: A Fairy Tale*
- Frontiers in Computational Astrophysics: Origin of Stars, Planets and Galaxies. Sept. 2004.
 Title: *N-body Simulations of Planet Formation: Successes and Challenges*
- Harvard-Smithsonian Conference on Theoretical Astrophysics:
 Astrophysics of Planetary Systems. May 2004.
 Title: *The Solar System - A Timeline*
- KITP Conference on Planet Formation: Terrestrial & Extra Solar. Mar..2004
 Title: *Ice Giant Migration: Implications for the Solar System and Beyond*
- 2003 Division of Planetary Sciences Meeting. Sept. 2003.
 Title: *Dynamics of the Kuiper Belt and the Origin of the Planets*
- 2003 Origins of Solar Systems Gordon Conference. July 2003
 Title: *Comets and Volatiles*
- XIXth IAP Colloquium Extrasolar Planets. July 2003.
 Title: *Formation of Terrestrial Planets*
- 29th General Assembly of European Geophysical Society. April 2003.
 Title: *The Role of Giant Planets in Terrestrial Planet Formation*
- 2001 Origins of Solar Systems Gordon Conference. June 2001
 Title: *The Dynamics of the Kuiper belt*
- IAU Colloquium No. 168: 'Cometary Nuclei in Space and Time'.
 Title: *The Dynamics of Comets.*
- 1996 DPS Meeting.
 Title: *Our Current Understanding of the Kuiper Belt.*
- Asteroids, Comets, Meteors 1996 Meeting.
 Title: *The Dynamical Structure of the Kuiper Belt.*
- Winter 1996 AAS Meeting.
 Title: *Our Current Understanding of the Kuiper Belt.*

Currently Funded Research Programs

(Levison PI)

- i) NASA Origins of Solar System Program:
The Formation of Cometary Reservoirs*
- ii) NASA Origins of Solar System Program:
The Formation of Terrestrial Planets*
- iii) NASA Planetary Geology and Geophysics Program:
Dynamical Transport of Small Bodies in the Solar System*
- iv) NASA TPF Fundamental Research Program:
Extra-Solar Terrestrial Planet Formation*
- v) NASA Exobiology:
The Coupling of Outer Solar System Architecture to the Habitability, Hazards,
and Environment on Planets Near the Sun and Other Stars*
- vi) NASA Applied Information System Program:
Improving Swift*
- vii) NASA JIMO:
The Jovian Meteoroid Population*
- viii) STScI:
Trans-Neptunian Objects*

Bibliography

- Levison, H.F., Terrell, D., Wiegert, P., Dones, L., & Duncan, M.J. 2006. 'On the Origin of the Unusual Orbit of Comet 2P/Encke.' *Icarus*, submitted.
- ‡Levison, H.F., Morbidelli, A., Gomes, R. S., Backman, D. 2006. 'Planet migration in planetesimal disks.' 2006. To appear in In *Protostars and Planets V*, eds. B. Reipurth and D. Jewitt.
- Bottke, W. F., Durda, D. D., Nesvorný, D., Jedicke, R., Morbidelli, A., Vokrouhlický, D., Levison, H. F. 2005. 'Linking the collisional history of the main asteroid belt to its dynamical excitation and depletion.' *Icarus* **179**, 63.
- McNeil, D., Duncan, M., Levison, H. F. 2005. 'Effects of Type I Migration on Terrestrial Planet Formation'. *Astronomical Journal* **130**, 2884.
- Gladman, B., Dones, L., Levison, H. F., Burns, J. A. 2005. 'Impact Seeding and Reseeding in the Inner Solar System.' *Astrobiology* **5**, 483.
- Tsiganis, K. Gomes, R. S., Morbidelli, A., Levison, H. F. 2005. 'Origin of the orbital architecture of the giant planets of the Solar System.' *Nature* **435**, 459.
- Morbidelli, A., Levison, H. F., Tsiganis, K. Gomes, R. S. 2005. 'Chaotic capture of Jupiter's Trojan asteroids in the early Solar System.' *Nature* **435**, 462
- Gomes, R. S., Levison, H. F., Morbidelli, A., Tsiganis, K. 2005. 'Origin of the cataclysmic Late Heavy Bombardment period of the terrestrial planets.' *Nature* **435**, 466.
- ‡ Dones, L., Weissman, P.R., Levison, H.F., & Duncan, M.J. 2005. 'Oort Cloud Formation and Dynamics.' In *Comets II*, eds. M.C. Featou, H.U. Keller, and H.A. Weaver (Tucson: University of Arizona Press), 153.
- ‡ Duncan, M.J., Levison, H.F., & Dones, L. 2005. 'Dynamical Evolution of Ecliptic Comets.' In *Comets II*, eds. M.C. Featou, H.U. Keller, and H.A. Weaver (Tucson: University of Arizona Press), 193.

- Bottke, W. F., Durda, D., Nesvorný, D., Jedicke, R., Morbidelli, A., Vokrouhlický, D. & Levison, H. 2005. 'The Fossilized Size Distribution of the Main Asteroid Belt.' *Icarus* **175**, 111.
- Levison, H. F., Morbidelli, A., Dones, L. 2004. 'Sculpting the Kuiper Belt by a Stellar Encounter: Constraints from the Oort Cloud and Scattered Disk.' *Astronomical Journal* **128**, 2553.
- Morbidelli, A. & Levison, H. F. 2004. 'Scenarios for the Origin of the Orbits of the Trans-Neptunian Objects 2000 CR105 and 2003 VB12 (Sedna).' *Astronomical Journal* **128**, 2564.
- Morbidelli, A.; Emel'yanenko, V. V.; Levison, H. F. 2004. 'Origin and orbital distribution of the trans-Neptunian scattered disc.' *Mon. Not. Roy. Ast. Soc.* **355**, 935.
- Gomes, R. S., Morbidelli, A., Levison, H. F. 2004. 'Planetary migration in a planetesimal disk: why did Neptune stop at 30 AU?' *Icarus* **170**, 492.
- ‡ Morbidelli A. & Levison H.F. 2003. 'The Primordial Sculpting of the Kuiper Belt.' *Comptes Rendus Physique* **4**, 809.
- Wiegert, P., McNeil, D., Duncan, M. & Levison H. 2004. Fast Force Algorithms and Solar System Integrations. *Astronomical Journal* **127**, 1218
- Levison, H. F. & Morbidelli, A. 2003. 'The Formation of the Kuiper Belt by the Outward Transport of Bodies During Neptune's Migration.' *Nature* **426**, 419-421.
- ‡ Morbidelli, A., Brown, M. E., Levison, H. F. 2003. 'The Kuiper Belt and its Primordial Sculpting.' *Earth Moon and Planets* **92**, 1.
- Nesvorný, D., Bottke, W. F., Levison, H. F., & Dones L. 2003. 'Recent Origin of the Solar System Dust Bands.' *Astrophysical Journal* **591**, 486-497.
- Nesvorný, D., Alvarillos, J. L. A., Dones, L. & Levison, H. F. 2003. 'Orbital and Collisional Evolution of the Irregular Satellites.' *Astronomical Journal* **126**, 398-429.
- Levison, H.F. & Agnor, C. 2003. 'The Role of Giant Planets in Terrestrial Planet Formation.' *Astronomical Journal* **125**, 2692.
- ‡ Morbidelli A. & Levison H.F. 2003. 'Kuiper belt interlopers.' *Nature*, **422**, 30.
- Thommes, E.W.; Duncan, M.J.; & Levison, H.F. 2003. 'Oligarchic Growth of Giant Planets.' *Icarus* **161**, 431.
- Stern, S. A., Bottke, W.F., & Levison, H.F. 2003. 'Regarding the Putative Eccentricity of Charon's Orbit.' *Astronomical Journal* **125**, 902.

- Monet D.G., Levine S.E., Canzian B., et al., 2003. 'The USNO-B Catalog.' *Astronomical Journal*, **125**, 984.
- Zahnle K., Schenk P., Dones L., & Levison H. 2003. 'Cratering Rates in the Outer Solar System.' *LPSC*, **34**, 1522.
- Bottke W.F., Stern S.A., Levison H.F. 2003. 'An Exploration of Charon's Putative Eccentricity Around Pluto.' *LPSC*, **34**, 2113.
- Levison, H., Morbidelli, A., Dones, L., Jedicke, R., Wiegert, P., & Bottke, W. 2002 'The Mass Disruption of Oort Cloud Comets' *Science*, **296**, 2212.
- Thommes, E.W.; Duncan, M.J.; & Levison, H.F. 2002. 'The formation of Uranus and Neptune among Jupiter and Saturn.' *Astronomical Journal*, **123**, 2862.
- Stern S.A. & Levison H.F., 2002. 'Toward a Planet Paradigm.' *Sky and Telescope* **104**, 42.
- ‡ Weissman, P. R., Bottke, W. F., & Levison, H. F. 2002. 'Evolution of Comets into Asteroids.' In *Asteroids III*, eds. W. F. Bottke Jr., A. Cellino, P. Paolicchi, and R. P. Binzel (Tucson: University of Arizona Press), 669.
- Nesvorný, D., Bottke W.F., Dones L., Levison H.F., 2002. 'The recent breakup of an asteroid in the main-belt region.' *Nature* **417**, 720.
- Bottke, W. F., Morbidelli, A., Jedicke, R., Petit, J.-M., Levison, H., Michel, P., & Metcalfe, T. S. 2002. 'Debiased orbital and size distributions of the near-Earth objects.' *Icarus*, **156**, 399.
- Stern, S.A & Levison, H.F. 2001. 'Regarding the Criteria for Planethood and Proposed Classification Schemes.' *Highlights in Astronomy* **12**, 205.
- Zahnle, K., Schenk, P., Sobieszczyk, S., Dones, L. & Levison, H.F. 2001. 'Differential Cratering of Synchronously Rotating Satellites by Ecliptic Comets.' *Icarus*, **153**, 111.
- Levison, H.F. & Stewart, G.R. 2001. 'Note: Remarks on Modeling the Formation of Uranus and Neptune.' *Icarus*, **153**, 224.
- Levison, H.F., Dones, L., Chapman, C.R. Stern, S.A., Duncan, M.J., & Zahnle, K. 2001. 'Could the Lunar Late Heavy Bombardment Have Been Triggered by the Formation of Uranus and Neptune?.' *Icarus*, **151**, 286.
- Levison, H.F., Dones, L., & Duncan, M.J. 2001. 'The origin of Halley-type comets: probing the inner Oort cloud.' *Astronomical Journal*, **121**, 2253.
- Levison, H.F., Dones, L., Canup, R., Agnor, C., & Duncan, M.J. 2001. 'The Role of Giant Planets in Terrestrial Planet Formation.' *LPSC XXXII*, abstract no. 1232.

- Levison, H.F. & Stern, S.A. 2001. 'On the Size-Dependence of the Inclination Distribution of the Main Kuiper Belt.' *Astronomical Journal*, **121**, 1730.
- ‡Levison, H.F. & Duncan, M.J. 2001. 'Cometary Dynamics' In *Collisional Processes in the Solar System*, eds. M. Marov and H. Rickman (Dordrecht: Kluwer Acad. Publ.), p73.
- Durda, D.D., Stern, S.A., Colwell, W.B., Parker, J.W., Levison, H.F., & Hassler, D.M. 2000. 'A new observational search for Vulcanoids in SOHO/LASCO Coronagraph Images.' *Icarus*, **148**, 312.
- Levison, H.F. & Duncan, M.J. 2000. 'Symplectically Integrating Close Encounters with the Sun.' *Astronomical Journal*, **120**, 2117.
- ‡Malhotra, R., Duncan, M.J., Levison, H. 2000. 'Dynamics of the Kuiper Belt'. In *Protostars and Planets IV*, eds. V. Mannings, A.P. Boss, and S.S. Russell, 1231.
- Levison, H.F., Duncan, M.J., Zahnle, K., Holman, M. Dones, L. 2000. 'NOTE: Planetary Impact Rates from Ecliptic Comets'. *Icarus*, **143**, 415.
- Dones, L., Gladman, B., Melosh, H.J., Tonks, W.B. Levison, H., & Duncan, M. 1999. 'Dynamical Lifetimes and Final Fates of Small Bodies: Orbit Integrations vs. Öpik Calculations'. *Icarus*, **142**, 509.
- Thommes, E.W.; Duncan, M.J.; & Levison, H.F. 1999. 'The formation of Uranus and Neptune in the Jupiter-Saturn region of the Solar System.' *Nature*, **402**, 635.
- Agnor, C.B., Canup, R.M., and H. F. Levison 1999. 'On the Character and Consequences of Large Impacts in the Late Stage of Terrestrial Planet Formation.' *Icarus*, **142**, 219.
- Zahnle, K., Levison, H., Dones, L., Schenk, P. 1999. 'Cratering Rates in the Outer Solar System,' *LPSC XXX*, abstract no. 1776.
- Agnor, C. B.; Canup, R. M.; & Levison, H. F. 1999. 'The Impact Phase of Terrestrial Planet Accretion: Implications for Lunar Origin,' *LPSC XXX*, abstract no. 1878.
- Stern, S.A. & Levison, H. F. 1999. 'A Warm Early Mars and CO2 Influx from the Late Heavy Bombardment,' *LPSC XXX*, abstract no. 1141.
- Canup, R., Levison, H.F., & Stewart, G.R. 1998. 'Stability of a Terrestrial Multiple Moon System.' *Astronomical Journal*, **117**, 603.
- Marsden, B. Levison, H., Malhotra, R. 1998, '1997 SZ10 and 1996 TR66'. *IAUC #7073*.
- Zahnle, K., Dones, L., & Levison, H.F. 1998. 'Cratering Rates on the Galilean Satellites.' *Icarus*, **138**, 202.

- Levison, H.F., Lissauer, J.J., & Duncan, M.J. 1998. 'Modeling the Diversity of Outer Planetary Systems.' *Astronomical Journal*, **116**, 1998.
- Duncan, M., Levison, H., & Lee M.H. 1998. 'A Multiple Timestep Symplectic Algorithm For Integrating Close Encounters.' *Astronomical Journal*, **116**, 2067.
- ‡Levison, H.F., & Weissman, P.R. 1998. 'The Kuiper Belt.' In *The Encyclopedia of the Solar System*, eds. P.R. Weissman, L.A. McFadden, & T. Johnson (New York: Academic Press), 557.
- Cochran, A., Levison, H., Tamblyn, P., Stern, S.A., & Duncan, M. 1998, 'The Calibration of the HST Kuiper Belt Object Search: Setting the Record Straight.' *Astrophysical Journal Letters*, **503**, L89.
- Canup, R.M., Levison, H.F., & Stewart G.R. 1998. 'Stability of a Terrestrial Multiple Moon System.' *LPSC XXVIII*.
- Stewart, G.R., & Levison, H.F. 1998. 'On the Formation of Uranus and Neptune.' *LPSC XXVIII*.
- Zahnle, K., Levison, H.F., & Dones, L. 1998. 'Cratering Rates on the Galilean Satellites.' *LPSC XXVIII*.
- Jessop, C., Duncan, M., Levison, H. 1997. 'Bending Instabilities in Homogeneous Oblate Spheroidal Galaxy Models'. *Astrophysical Journal*, **489**, 49.
- Lee, M.H., Duncan, M.J., & Levison, H.F. 1997. 'Variable Time Step Integrators for Long-Term Orbital Integrations.' In *Computational Astrophysics, Proc. 12th Kingston Meeting*, eds. D.A. Clarke and M.J. West (San Francisco: Astronomical Society of the Pacific), 32.
- Gladman, B.J., Migliorini, F., Morbidelli, A., Zappala, V., Michel, P., Cellino, A., Froeschlé, Ch., Levison, H.F., Bailey, M., & Duncan, M. 1997, 'Dynamical Lifetimes of Objects Injected into Asteroid Belt Resonances.' *Science.*, **277**, 197.
- Weissman, P.R. & Levison, H. 1997, 'Origin and Evolution of the Unusual Object 1996 PW.' *Astrophysical Journal Letters*, **488**, L133.
- Duncan, M. & Levison, H. 1997, 'A Scattered Disk of Icy Objects and the Origin of Jupiter-Family Comets.' *Science*, **276**, 1670.
- Levison, H., & Duncan, M. 1997, 'From the Kuiper Belt to Jupiter-Family Comets: The Spatial Distribution of Ecliptic Comets.' *Icarus*, **127**, 13.
- ‡ Weissman, P., & Levison, H. 1997, 'The population of the trans-Neptunian region: the Pluto-Charon environment.' In *Pluto and Charon*, eds. S.A. Stern and D.J. Tholen (Tucson: University of Arizona Press), 559-604.
- Parker, J.W., Levison, H., Feasen, R. 1997, 'Comet C/1997 BA₆'. *IAUC #6561*.

Levison, H., Shoemaker, E.M., and Shoemaker, C. S. 1997, 'The Dispersal of the Trojan Swarm'. *Nature*, **385**, 42.

‡ Levison, H. 1996, 'Comet Taxonomy,' in 'Completing the Inventory of the Solar System', eds. T.W. Rettig & J.M. Hahn. (San Francisco: ASP), 173.

Dones, L., Levison, H., Duncan, M. 1996, 'On the Dynamical Lifetimes of Planet-Crossing Objects,' in 'Completing the Inventory of the Solar System', eds. T.W. Rettig & J.M. Hahn. (San Francisco: ASP), 233.

Weissman, P., & Levison, H. 1996, 'The Size Distribution of Cometary Nuclei'. *LPSC XXVII*, 1409.

Canup, R., Levison, H., Stewart, G., Esposito, L. 1996, 'Accretion of the Moon from an Impact Generated Disk'. *LPSC XXVII*, 195.

Gladman, B., Burns, J.A., Duncan, M., Lee, P. & Levison, H. 1996, 'The Exchange of Impact Ejecta Between Terrestrial Planets.' *Science*, **271**, 1387.

Gladman, B., Burns, J.A., Duncan, M., & Levison, H. 1996, 'Ejecta Transfer Between Terrestrial Planets,' in 'Dynamics, Ephemerides, and Astrometry in the Solar System,' eds. S. Ferraz-Mello, B.Morando, & J.-E.Arlot.

Cochran, A., Levison, H., Stern, S.A., & Duncan, M. 1995, 'The Discovery of Halley-sized Kuiper Belt Objects Using HST'. *Astrophysical Journal*, **455**, 342.

Duncan, M., Levison, H., & Budd M. 1995, 'The Dynamical Structure of the Kuiper Belt'. *Astronomical Journal*, **110**, 3073.

Gladman, B., Burns, J.A., Duncan, M., & Levison, H. 1995, 'The Dynamical Evolution of Lunar Impact Ejecta.' *Icarus*, **118**, 302.

Levison, H., Duncan, M., & Wetherill, G. 1995, 'A Mechanism for Producing the Transient Absorption Events in β Pictoris', in 'Circumstellar Dust Disks and Planet Formation', eds. R. Ferlet & A. Vidal-Madjar.

Levison, H., & Stern, S.A. 1995, 'The Early Dynamical History of the Pluto-Charon System'. *Icarus*, **116**, 315.

Levison, H., Stern, S.A. 1995, 'Kuiper Belt Object Encounters with the Pluto-Charon Binary: A Mechanism for Exciting Charon's Eccentricity', *LPSC XXVI*, 841.

Levison, H., Duncan, M., & Wetherill, G. 1994, 'Secular Resonances and Cometary Orbits in the β Pictoris System', *Nature*, **372**, 441.

Stern, S.A., Parker, J., Duncan, M., Snowdall, C., & Levison, H. 1994, 'Dynamical and Observational Constraints on Satellites in the Inner Pluto-Charon System', *Icarus*, **108**, 234.

- Levison, H., & Duncan, M. 1994, 'The Long-Term Dynamical Behavior of Short-Period Comets ', *Icarus*, **108**, 18.
- Levison, H., Duncan, M. 1993, 'The Gravitational Sculpting of the Kuiper Belt', *Astrophysical Journal Letters*, **406**, L35.
- Levison, H., Stern, S.A. 1993, 'Mapping the Stability Region of the 3:2 Neptune-Pluto Resonance', *LPSC XXIV*, 869.
- ‡ Levison, H. 1992, 'The State of Knowledge Concerning the Kuiper Belt', in 'Asteroid, Comets, Meteors 1991', eds. A.W. Harris & E. Bowell.
- Levison, H. 1992, 'The Long-Term Dynamical Behavior of Small Bodies in the Kuiper Belt' in IAU Symposium # 152, 'Chaos, Resonance, and Collective Phenomena in the Solar System', ed. S. Ferraz-Mello.
- Levison, H., Shoemaker, E.M., and Wolfe, R.F. 1991 'Mapping the Stability Field of the Jupiter Trojans', *LPSC XXII*, 803.
- Zepf, S., Whitmore, B., and Levison, H. 1991, 'Optical Colors of Early-Type Galaxies in Compact Groups', *Astrophysical Journal*. **383**, 524.
- Levison, H. 1991, 'The Long-Term Dynamical Behavior of Small Bodies in the Kuiper Belt', *Astronomical Journal*, **102**, 787.
- Levison, H., Duncan, M., and Smith, B. 1990, 'Dynamical Instabilities in Axisymmetric Stellar Systems I: Oblate E6 Models', *Astrophysical Journal*, **363**, 66.
- Levison, H., and Duncan, M. 1990, 'A Search For Proto-Comets In The Outer Regions Of The Solar System', *Astronomical Journal*., **100**, 1669.
- Levison, H., Duncan, M., and Smith, B. 1989, 'The Stability of Oblate Elliptical Galaxies with Isothermal Potentials', in the proceedings of the 'Heidelberg Conference on Dynamics and Interactions of Galaxies', ed. R. Weilen.
- Levison, H. 1989, ' Non-linear Pixels in the USNO Tektronix 2048 × 2048 CCD ', in the Astronomical Society of the Pacific Conference Series Volume 8, 'CCD's in Astronomy', ed. G. Jacoby.
- Duncan, M., and Levison, H. 1989, 'A Highly Triaxial Dynamical System That Tumbles About Its Intermediate Axis', *Astrophysical Journal Letters* **339**, L17.
- Fillmore, J., and Levison, H. 1989, 'Dynamical Models of Oblate E6 Elliptical Galaxies with de Vaucouleurs' Surface Brightness Profiles', *Astronomical Journal*, **97**, 57.
- Levison, H., and Richstone, D. 1987, 'Triaxial Scale-Free Models of Highly Flattened Elliptical Galaxies with and without Massive Halos ',in IAU Symposium # 127, ' Structure and Dynamics of Elliptical Galaxies', ed. T. deZeeuw.

- Levison, H. 1987, 'Observable Properties of E0 Triaxial Galaxies: A Test For Triaxiality', *The Astrophysical Journal Letters* **320**, L93.
- Levison, H., and Richstone, D. 1987, 'Triaxial Scale-Free Models of Highly Flattened Elliptical Galaxies with and without Massive Halos ', *Astrophysical Journal*, **314**, 476.
- Levison, H., and Richstone, D. 1986, 'Dynamical Models of a Sample of Population II Stars', *Astrophysical Journal*, **308**, 627.
- Laird, J., and Levison, H. 1985, 'Tests of the Fourier Quotient Method', *Astronomical Journal*, **90**, 2652.
- Levison, H. and Richstone, R. 1985, 'Internal Dynamics of Highly Flattened Spheroidal Systems', *Astrophysical Journal*, **295**, 349.
- Levison, H., and Richstone, D. 1985, 'Scale-Free Models of, Highly Flattened Elliptical Galaxies with Massive Halos', *Astrophysical Journal*, **295**, 340.
- Seeds, M., and Levison, H. 1981, 'Apple: Analog to Digital Conversion in 27 Microseconds', *Byte*, **6**, 458.