

Name: NOAM SOKER

Date: January, 2016

RESUME

PERSONAL DETAILS

Name: Noam Soker
Place and Date of Birth: Israel, 2.9.1958
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ACADEMIC DEGREES

<u>Dates</u>	<u>Name of Institution and Department</u>	<u>Degree</u>
1975-1977	Department of Mathematics and Physics, Oranim, University of Haifa	Beginning of Bachelor Degree in Physics
1980-1982	Department of Physics, Technion	Finishing Bachelor in Physics B.Sc. awarded: 4th May 1983 – Summa Cum Laude
1982-1986	Department of Physics, Technion	Doctoral studies Ph.D. awarded: 20th April 1986

ACADEMIC APPOINTMENTS

<u>Dates</u>	<u>Name of Institution and Department</u>	<u>Rank</u>
July-August 1984	Astronomical Institute, University of Amsterdam, Amsterdam – Holland	Visiting Researcher
September 1986 - August 1989	Department of Astronomy, University of Virginia, Charlottesville, Virginia, U.S.A.	Post-doctoral
September 1989 - September 1992	Harvard-Smithsonian Center for Astrophysics, Harvard University, Cambridge, MA, U.S.A.	Post-doctoral
October 1992 - May 1994	Oranim - University of Haifa, Science Education Department	Senior Lecturer
May 1994 - December 1998	Oranim - University of Haifa, Science Education Department	Associate Professor
December 1998- September 2003	Oranim - University of Haifa, Science Education Department	Full Professor
October 2003	Department of Physics, Technion	Full Professor

PROFESSIONAL EXPERIENCE

- October 1994 - October 1998 Chairman of the Mathematics-Physics Department, Oranim - University of Haifa
- May 2005 - September 2009 Head of the undergraduate program at the Physics Dept.
- October 2009 - 2015 Dean of the Faculty of Physics, Technion

RESEARCH INTERESTS

- **Hot gas in galaxy clusters:** Heating the intra-cluster medium with jets launched from super-massive black holes, and feeding the black hole with cold gas. Specific contributions: the cold feedback mechanism; inflation of 'fat bubbles'.
- **The death of massive stars:** Core collapse supernovae: Specific contributions: the jittering-jet model for explosion;
- **Type Ia supernovae.** Specific contributions: The core-degenerate model.
- **The death of solar-like stars:** Planetary nebulae, and the destruction of planets. Specific contributions: shaping planetary nebulae by stellar companions and the influence of planets on stellar evolution.
- **Intermediate - Luminosity Optical Transients (ILOTs):** Eruptive stars in the gap between Novae and Supernovae. Specific contributions: Modeling the eruption by mass transfer from an unstable star to a main sequence companion.
- **Eta Carinae:** The formation of the nebula around one of the most massive binary systems in the galaxy, and the strange behavior of the binary system. Specific contributions: The role of mass transfer in the present behavior of the system and during the Great Eruption of the 19th century.

TEACHING EXPERIENCE

	<u>Title</u>	<u>Year</u>	<u>Type</u>	<u>Level</u>
1)	Current Topics in Astronomy	Academic Year 1988-1989 Astronomy, Univ. of Virginia	Weekly 1 hour	Master + Doctor
2)	Physics 0 (Oranim)	1992-2000 (1 semester)	Weekly 6 h.	B.Sc.
3)	EM, Waves and Optics(Oranim)	1993 (1 semester)	Weekly 4 h.	B.Sc.
4)	Introduction to Astronomy (U. of Haifa)	1993-2000 (1 semester)	Weekly 2 h.	B.A.
5)	Introduction to Statistical Mechanics (Oranim)	1994 (1 semester)	Weekly 2 h.	B.Sc.
6)	Introduction to Quantum Mechanics (Oranim)	1994 (1 semester)	Weekly 4 h.	B.Sc.
7)	Nuclear Reactor and Nuclear Weapon (U. of Haifa)	1995-2000 (1 semester)	Weekly 2 h.	B.A.
8)	Introduction to Nuclear Physics (Oranim)	1995; 97; 99; 2001 (1 semester)	Weekly 4 h.	B.Sc.
9)	Introduction to Physics of 20th Century (U. of Haifa)	1996-2000 (2 semesters)	Weekly 2 h.	B.A.
10)	Special Relativity (Oranum)	1998; 2000 (1 semester)	Weekly 2h.	B.Sc.
11)	Astrophysics (Oranum)	2000 (1 semester)	Weekly 2h.	B.Sc.
12)	Physics 1 for biologists (Oranum)	2002 (1 semester)	Weekly 5h	B. Sc
13)	Physics 1m/1P (Technion)	2003-2009; 2015	Weekly 3h /4h	B. Sc
14)	Physics 2m (Technion)	2004-2007	Weekly 4h	B. Sc
15)	Stellar Physics 1	2006,09	Weekly 3h	PhD+ B.Sc.

16)	Topics in Stellar Evolution	2007	Weekly 2h	PhD
17)	Astrophysics and Cosmology (Technion)	2007-10 (1 semester)	Weekly 3 h.	B.Sc.
18)	Black Holes (Technion)	2011 (1 semester)	Weekly 2 h.	B.Sc.

PUBLIC PROFESSIONAL ACTIVITIES

Refereeing for Journals:

Refereeing of Papers for the Following Journals:

- Astronomical Journal
- Astrophysical Journal
- Astrophysical Journal Letters
- Nature
- Science
- Publications of the Astronomical Society of the Pacific
- Monthly Notices of the Royal Astronomical Society
- Astronomy & Astrophysics

High School Teaching:

1982-1986 Half Time Teaching: Mathematics, Physics and Chemistry:
Grades 7-12: Naaman High School

LONG PROFESSIONAL VISITS ABROAD

Aug 01-Feb 02 Department of Astronomy, University of Virginia,
Charlottesville, Virginia, U.S.A. - 6 months Sabbatical.

CONFERENCES

Plenary or invited talks:

1)	ESO/CTIO Workshop: Mass Loss on the AGB and Beyond	La Sarena, Chile, January 21-24, 1992	Common Envelopes and Axisymmetrical Mass Loss
2)	Magnetic Effects in Accretion and Cooling Flows (International Workshop)	Technion, Haifa, Israel, June 3-6, 1996	Magnetic Fields and Inflow in Cooling Flows
3)	Galactic and Cluster Cooling Flows (International Workshop)	Oranim - University of Haifa, Israel, August 5-8, 1996	Magnetic Fields and Inflow in Cooling Flows
4)	Astrophysical Fluids - From Atomic Nuclei to Stars and Galaxies (International Meeting)	Technion, Haifa, Israel, January 12-15, 1998	Interaction of Planets with AGB and RGB Stars

5)	Asymmetrical PNs II	MIT, MA., U.S.A., August 3-6, 1999	The Transition to Axisymmetrical Mass Loss
6)	Post AGB Objects	Torun, Poland, July 5-7, 2000	Planets and Axisymmetrical Mass Loss
7)	Planetary Nebulae	Canbera, Australia November 19-23, 2001	Planetary Nebulae in the Scheme of Binary Evolution
8)	Symbiotic Stars: Probing Stellar Evolution	La Palma, Spain, May 27-31, 2002	Evolution with Mass Transfer
9)	IAU Symposium 219: Stars as Suns: Activity, Evolution and Planets	Australia, July 21-25, 2003	Influence of Planets on Parent Stars: Angular Momentum
10)	IAU Colloquium 194: Compact Binaries in the Galaxy and Beyond	La Paz, Baja California Sur, Mexico, November 17-22, 2003	Energy and Angular Momentum Deposition During Common Envelope Evolution
11)	Planetary Nebulae as Astronomical Tools	Gdansk, Poland, June 28, July 2, 2005	Can we ignore magnetic fields in studies of PN formation, shaping and interaction with the ISM?
12)	The Nature of V838 Mon and its Light Echo	La Palma, Spain, May 16-19, 2006	On the main sequence merger model
13)	Star-disk interaction in young stars	Grenoble, France, May 21-25 2007	The role of thermal pressure in jet launching
14)	Asymmetrical Planetary Nebulae IV	La Palma, Spain June 18-22, 2007	Member in a Panel Discussion
15)	The Monster's Fiery Breath: Feedback in Galaxies, Groups, and Clusters	Madison, USA June 1-5, 2009	The moderate cooling flow model
16)	The Fourth Meeting on Hot Subdwarf Stars and Related Objects	Shanghai, China July 20-24, 2009	The Role of Planets in the Formation of EHB Stars
17)	Astrophysical Outflows and Associated Accretion Phenomena	Rio de Janeiro August 6-7, 2009	Are jets rotating at the launching?"
18)	Evolution of galaxies, their central black holes and their large-scale environment	Potsdam September 20-24, 2010	A Moderate Cooling Flow Phase at Galaxy Formation
19)	Planets Around Stellar Remnants	Arecibo, January , 23-27 2012	Transient events from the destruction of planets
20)	Galaxy Clusters as Giant Cosmic Laboratories	Madrid, May, 21-23, 2012	The cold feedback mechanism
21)	The death of stars and the lives of galaxies	Santiago, April 8-12, 2013	The summary talk
22)	Interacting Binaries and Isolated Neutron Stars	Cefalu, Sicily, June 9-14, 2014	The Core-Degenerate Scenario

A large impact by presenting unique views/models/ideas and leading discussions

1)	The asymmetrical planetary nebulae (APN) series which I initiated in 1994.	Oranim 1994; MIT 1999; Seattle 2003; La Palma; 2007; Manchester 2010; Mexico 2013;	Very active member on the organizing committees; chairing sessions; leading discussions
2)	Supernovae Illuminating the Universe	Garching, Germany, September 12-14, 2012	The Core-Degenerate (CD) scenario for SN Ia; The Jittering-Jets model for core-collapse SNe.
2)	F.O.E. fifty-one ergs	Raleigh, NC, May 13-17, 2013	CD scenario; Jittering-jets model
3)	Stellar Tango at the Rockies 14	Lake Louise, Canada, March 23-28, 2014	Merger during the CE phase; Jets in CEs
4)	Characterizing Planetary Systems across the HR Diagram	Cambridge, UK, July 28-31, 2014	Planets – star interaction; planet-star merger
5)	Supernovae in the local Universe	Coffs Harbour, Australia, August 11-15, 2014	CD scenario; jittering-jets model
6)	The physics of evolved stars; A conference dedicated to the memory of Olivier Chesneau".	Nice, France, June 8-12, 2015	The grazing-envelope evolution (GEE).

Active participation in organizing conferences:

- 1) Organization of an International Scientific Conference in Astrophysics (Co-chairman with Amos Harpaz): "Asymmetrical Planetary Nebulae", August 9-11, 1994. The Conference took place in Oranim - University of Haifa.
- 2) Organization of an International Scientific Meeting in Astrophysics (Chairman): "Galactic and Cluster Cooling Flows", August 5-8, 1996. The Meeting took place in Oranim - University of Haifa.
- 3) Member of the organizing committee (and initiator) of a meeting (the second in the series initiated at Oranim 1994): "Asymmetrical Planetary Nebulae II: From Origins to Microstructures". August 3-6, 1999, MIT, U.S.A. Organizing Committee: Joel Kastner, Noam Soker and Saul Rappaport.
- 4) Member of the organizing committee (and initiator) of a meeting: "The Riddle of Cooling Flows in Galaxies and Clusters of Galaxies", The University of Virginia, 31 May – 4 June, 2003.
- 5) Member of the organizing committee (and initiator) of a meeting: "Asymmetrical Planetary Nebulae III: Winds, Structure and the Thunderbird", (the third in the series initiated at Oranim), Mt. Rainier, WA, USA, 28 July – 1 August, 2003.
- 6) Member of the organizing committee of a meeting: "Heating vs. Cooling in Galaxies and Clusters of Galaxies", Garching, Germany, August 6-11, 2006.
- 7) Member of the organizing committee (and initiator) of a meeting: "Asymmetrical Planetary Nebulae IV, La Palma, June 18-22, 2007.
- 8) Member of the organizing committee (and initiator) of a meeting: "Asymmetrical Planetary Nebulae V, Manchester, UK, June 20-5, 2010.

- 9) Co-chair and the initiator of a meeting: "Planetary Systems Beyond the Main Sequence", Bamberg, Germany, August 11-14, 2010.
- 10) Member of the organizing committee (and initiator) of a meeting: "Asymmetrical Planetary Nebulae VI, Mexico, November 4-8, 2013.
- 11) Member of the organizing committee: "Characterizing Planetary Systems Across the HR Diagram", Cambridge, UK, July 28-31, 2014.

HONORS

1981	Awards from the Israel Association of Physics
1983	President's List Honor Student Scholarship, Technion
1985	Moshe Ben-Sira Fellowship received as an honor student, Technion
1992-1995	Alon Fellowship
2011	Yanay Prize for Academic Excellence at the Technion

GRADUATE STUDENTS

<u>Student's Name</u>	<u>Title of Thesis/ Dissertation</u>	<u>Degree</u>	<u>Date</u>
David L. Blank (U. of Virginia)	Seyfert Galaxy Evolution	Master	May 1989
Philip C. Plait (U. of Virginia)	The Electron Density Profile of the Planetary Nebula NGC 6826	Master	May 1990
Essam Zoabi	The Intracluster Medium (supervision with Prof. Oded Regev)	PhD	1998
Muhammad Akashi	X-Ray Emission From Colliding Winds In Planetary Nebulae (supervision with Prof. Ehud Behar)	PhD	October 2008
Assaf Sternberg	Shaping of Planetary Nebulae and Radio Bubbles in Galaxy Clusters	PhD	March 2009
Amit Kashi	The Periastron Passage of the Binary Star Eta Carinae	PhD	September 2011
Carmit Gordon Lahav	Correlations of Black Hole Mass with Host Galaxy Properties	Master	February 2012
Marjan Ilkov	Common envelope WD-core merger as Type Ia supernova progenitors	Master	September 2012
Danny Tsebrenko	Interaction of Stellar Winds with Circumstellar Matter	Master	October 2012
	Interaction of supernova ejecta with asymmetrical circumstellar matter	PhD	October 2015
Avishai Gilkis	Heating of a Medium by Jets from a Compact Object	Master	October 2012
	Intermittent Accretion Disk Production in Core Collapse Supernovae	PhD	
Michael Refaelovich	Chains of X-ray deficient bubbles as consequence of vortices fragmentation	Master	October 2012

Efrat Sabach	Transient Event from a Core-WD Merger	Master	October 2013
	Mass Transfer in Stellar Binary Systems Resulting in Peculiar Objects	PhD	
Oded Papish	Expel of gravitationally bound mass by fast jets from compact objects	PhD	September 2015
Liron Mcley	Stellar Instability and Intermediate Luminosity Optical Transients (ILOTs)	Master	November 2014
Shlomi Hillel	Dynamics of Clumps in the Intracluster Medium	PhD	January 2016
Sagiv Shiber		PhD	
Naveh Levanon		PhD	

POSTDOCTORAL FELLOW:

Fabio Pizzolato 2004-2007
Adam Frankowski 2008-2010
Ealeal Bear 2009-2011

RESEARCH GRANTS

1990	"Wind Interaction in Planetary Nebulae"	Soker, N. and Raymond, J.C.	Grant from NASA \$31,937
1990	"UV Spectra of Magnetically Disturbed Accretion Disks"	Raymond, J.C., van Ballegoijen, A., Soker, N., Nauche, C.W. and Miller, G.	Grant from NASA \$33,000
1990	"The Eclipsing Intermediate Polar LB 1800"	Raymond, J.C., Buckley, D.A., Mauche, C.W., Miller, G. and Soker, N.	Grant from NASA \$12,600
1991	"Resonant Excitation of P- and G-Waves in Common envelopes"	Soker, N.	Grant from NASA \$29,145
1993	X-ray Filaments in Cluster Cooling Flows	Soker, N. and Regev, O.	Grant: the Technion- Univ. of Haifa Foundation \$5,000
1994-1997	X-ray Filaments in Cluster Cooling Flows	Soker, N. and Regev, O.	Grant: Israel Science Foundation, 3 years, \$30,000/year

1997-2000	Jets and Axisymmetrical Structures in Planetary Nebulae and Young Stellar Objects	Regev, O. and Soker, N.	Grant: Israel Science Foundation, 3 years, \$ 35,000/year
1999-2002	The Role of Binary Companions in Shaping Circumstellar Media	Soker, N. and Rappaport, S.	Grant from the US-Israel BSF \$ 22,000/year

2002-2005	Mass ejection in Late Stages of Stellar Evolution	Soker, N.	Grant: Israel Science Foundation 3 years, \$ 30,000/ year
2008-2012	Connecting Shaping of Planetary Nebulae, Eta Carinae, and Cooling Flows	Soker, N.	Grant: Israel Science Foundation 4 years, \$ 30,000/ year
2011-2015	Winds interaction in planetary nebulae and related objects	Soker, N. and Kastner, J. H.	Grant: US-Israel BSF n 4 years, \$ 19,000/ year

PUBLICATIONS

Thesis:

"Accretion from an Inhomogeneous Medium", 153 pages, in Hebrew.

Supervisor: Prof. Mario Livio.

Submitted to the Senate of the Technion in January 1986.

The work was published in the papers: 1, 2, 3, 4, 5, 6, 8, 9 in the list of refereed publications below.

Review Papers:

Soker, N., "Planetary Nebulae", Scientific American, May, pp. 78-85 (1992).

Edited Books:

1. Harpaz, A. and Soker, N. (Eds.) Asymmetrical Planetary Nebulae. Annals of the Israel Physical Society, Vol. 11, University of Haifa at Oranim Conference, Israel, 306 pages (1995).
2. Soker, N. (Ed.) Galactic and Cluster Cooling Flows. Astronomical Society of the Pacific Conference Series, Vol. 115, Proceedings of a Conference held at the University of Haifa at Oranim, Israel, 5-8 August 1996, 227 pages (1997).
3. Kastner, J.H., Soker, N. and Rappaport, S. (Eds.) Asymmetrical Planetary Nebulae II: From Origins to Microstructures. Astronomical Society of the Pacific Conference Series, Vol. 199, Proceedings of a Conference held at M.I.T., MA., U.S.A., August 3-6, 1999, 463 pages (2000).
4. Reiprich, T., Kempner, J., and Soker, N. (Eds) Riddle of Cooling Flows in Galaxies and Clusters off Galaxies, held in Charlottesville, VA, May 31 – June 4, 2003. Published electronically: <http://www.astro.virginia.edu/coolflow/> and on ADS (2004).
5. Meixner, M., Kastner, J.H., Soker, N. and Balick, B. (Eds.) Asymmetrical Planetary Nebulae III. Astronomical Society of the Pacific Conference Series, Vol. 313, in press. Proceedings of a Conference held at Washington State, U.S.A., July 28 – August 1, 2003 (2004).

Papers in refereed journals:

1. Livio, M., and Soker, N. "Star-Planet Systems as Progenitors of Cataclysmic Binaries: Tidal Effects", Astronomy and Astrophysics, **125**, L12-L15 (1983).
2. Livio, M., and Soker, N. "Star-Planet Systems as possible Progenitors of Cataclysmic Binaries", Monthly Notices of the Royal Astronomical Society, **208**, 763-781 (1984).

3. Livio, M., and Soker, N. "On the Masses of the White Dwarfs in Cataclysmic Variables", Monthly Notices of the Royal Astronomical Society, **208**, 783-797 (1984).
4. Soker, N., Harpaz, A., and Livio, M. "The Evolution of a Star-Planet System in the Double Core Phase", Monthly Notices of the Royal Astronomical Society, **210**, 189-195 (1984).
5. Soker, N., and Livio, M. "On Accretion from a Medium Containing a Density Gradient", Monthly Notices of the Royal Astronomical Society, **211**, 927-932 (1984).
6. Livio, M., Soker, N., de Kool, M., and Savonije, G.J. "On Accretion of Angular Momentum from an Inhomogeneous Medium", Monthly Notices of the Royal Astronomical Society, **218**, 593-604 (1986).
7. Livio, M., Soker, N., and Dgani, R. "On the Stream-Disk Interaction in Accreting Compact Objects", Astrophysical Journal, **305**, 267-280 (1986).
8. Soker, N., Livio, M., de Kool, M., and Savonije, G.J. "Accretion of Angular Momentum from an Inhomogeneous Medium II: Isothermal Flow", Monthly Notices of the Royal Astronomical Society, **221**, 445-452 (1986).
9. Livio, M., Soker, N., de Kool, M., and Savonije, G.J. "Accretion of Angular Momentum from an Inhomogeneous Medium III: General Case and Observational Consequences", Monthly Notices of the Royal Astronomical Society, **222**, 235-250 (1986).
10. Soker, N., Regev, O., Livio, M., and Shara, M.M. "Massive Disk Formation Resulting from the Collision of a Main Sequence Star with a White Dwarf in a Globular Cluster Core", Astrophysical Journal, **318**, 760-766 (1987).
11. Soker, N., and Sarazin, C.L. "Cooling Flows and the Stability of Radio Jets", Astrophysical Journal, **327**, 66-81 (1988).
12. Soker, N., O'Dea, C.P., and Sarazin, C.L. "Numerical Simulations of the Bending of Narrow Angle Tail Radio Jets by Ram Pressure or Pressure Gradients", Astrophysical Journal, **327**, 627-638 (1988).
13. Livio, M., and Soker, N. "The Common Envelope Phase in the Evolution of Binary Stars", Astrophysical Journal, **329**, 764-779 (1988).
14. Dgani, R., Livio, M., and Soker, N. "On the Stream-Accretion Disk Interaction: Response to the Increased Mass Transfer Rate", Astrophysical Journal, **336**, 350-359 (1989).
15. Soker, N., and Livio, M. "Interacting Winds and the Shaping of Planetary Nebulae", Astrophysical Journal, **339**, 268-278 (1989).
16. Soker, N. "Early Shaping of Asymmetrical Planetary Nebulae", Astrophysical Journal, **340**, 927-931 (1989).

17. Balbus, S.A., and Soker, N. "Theory of Local Thermal Instability in Spherical Systems", *Astrophysical Journal*, **341**, 611-639 (1989).
18. Chevalier, R.A., and Soker, N. "Asymmetric Envelope Expansion of Supernova 1987A", *Astrophysical Journal*, **341**, 867-882 (1989).
19. Soker, N., and Sarazin, C.L. "The Role of Magnetic Fields in Cluster Cooling Flows", *Astrophysical Journal*, **348**, 73-84 (1990).
20. Soker, N. "On the Formation of Ansaе in Planetary Nebulae", *Astronomical Journal*, **99**, 1869-1882 (1990).
21. Plait, P., and Soker, N. "The Evolution of the Planetary Nebula NGC 6826", *Astrophysical Journal*, **99**, 1883-1890 (1990).
22. Soker, N. "H-Function Evolution in Collisionless Self-Gravitating Systems", *Publications of the Astronomical Society of the Pacific*, **102**, 639-645 (1990).
23. Balbus, S.A., and Soker, N. "Resonant Excitation of Internal Gravity Waves in Cluster Cooling Flows", *Astrophysical Journal*, **357**, 353-366 (1990).
24. Soker, N. "Stability Analysis of the Accretion Line", *Astrophysical Journal*, **358**, 545-550 (1990).
25. Borkowski, K.J., Sarazin, C.L., and Soker, N. "Interaction of Planetary Nebulae with the Interstellar Medium", *Astrophysical Journal*, **360**, 173-183 (1990).
26. Abramowics, M.A., Livio, M., Soker, N., and Szuskiwicz, E. "Local Stability of Thick Accretion Disks. II. Viscous and Radiative Effects", *Astronomy and Astrophysics*, **239**, 399-403 (1990).
27. Soker, N. "Resonant Interaction in Common Envelopes", *Astrophysical Journal*, **367**, 593-600 (1991).
28. Soker, N., Bregman, J.N., and Sarazin, C.L. "Stripped Interstellar Gas in Cluster Cooling Flows", *Astrophysical Journal*, **368**, 341-347 (1991).
29. Whitney, B.A., Soker, N., and Clayton, G.C. "Model for R Coronae Borealis Stars", *Astrophysical Journal*, **102**, 284-288 (1991).
30. Soker, N. "Nonlinear Instability of the Accretion Line", *Astrophysical Journal*, **376**, 750-756 (1991).
31. Soker, N., Borkowski, K.J. and Sarazin, C.L. "Interaction of Planetary Nebulae with the Interstellar Medium: Theory", *Astronomical Journal*, **102**, 1381-1392 (1991).
32. Livio, M., Soker, N., Matsuda, T., and Anzer, U. "On the Flip-Flop Instability of Bondi-Hoyle Accretion Flows", *Monthly Notices of the Royal Astronomical Society*, **253**, 633-636 (1992).

33. Soker, N. "Excitation of Pressure Modes in Common Envelopes", *Astrophysical Journal*, **386**, 190-196 (1992).
34. Soker, N. "Jet Formation in the Transition from the AGB to Planetary Nebulae", *Astrophysical Journal*, **389**, 628-634 (1992).
35. Soker, N. "Excitation of Gravity Waves in Common Envelopes", *Astrophysical Journal*, **399**, 185-191 (1992).
36. Soker, N., and Harpaz, A. "Can a Single AGB Star Form an Axially Symmetric Planetary Nebula?", *Publications of the Astronomical Society of the Pacific*, **104**, 923-930 (1992).
37. Soker, N., Zucker, D.B., and Balick, B. "The Density Profile of the Elliptical Planetary Nebula NGC 3242", *Astronomical Journal*, **104**, 2151-2160 (1992).
38. Vrtilik, S.D., Soker, N., and Raymond, J.C. "Effects of Inclination Angle on the Spectra of X-Ray Binaries", *Astrophysical Journal*, **404**, 696-705 (1993).
39. Zucker, D.B., and Soker, N. "The Morphology and Interaction with the ISM of the Planetary Nebula IC 4593", *Astrophysical Journal*, **408**, 579-585 (1993).
40. Soker, N. "Effects of Convection on Pressure Wave Excitation in Common Envelopes", *Astrophysical Journal*, **417**, 347-350 (1993).
41. Dgani, R. and Soker, N. "Nonlinear Instability of Colliding Winds in a Double Star System", *Astronomy and Astrophysics*, **282**, 54-60 (1994).
42. Soker, N. "The Expected Morphology of the Solar System Planetary Nebula", *Publications of the Astronomical Society of the Pacific*, **106**, 59-62 (1994).
43. Soker, N. and Livio, M. "Disks and Jets in Planetary Nebulae", *Astrophysical Journal*, **421**, 219 (1994).
44. Soker, N. "Heat Conduction Fronts in Planetary Nebulae", *Astronomical Journal*, **107**, 276-279 (1994).
45. Dgani, R. and Soker, N. "Radiative Shock Overstability of Finite Sized Objects", *Astrophysical Journal*, **434**, 262-267 (1994).
46. Harpaz, A., and Soker, N. "Evaporation of Brown Dwarfs in AGB Envelopes", *Monthly Notices of the Royal Astronomical Society*, **270**, 734-742 (1994).
47. Soker, N. "Influences of Wide Binaries on the Structures of Planetary Nebulae", *Monthly Notices of the Royal Astronomical Society*, **270**, 774-780 (1994).
48. Godon, P., Soker, N., White, R.E. III, and Regev, O. "Optical Filaments and Global flow in Cluster Cooling Flows", *Astronomical Journal*, **108**, 2009-2015 (1994).

49. Soker, N. "Tidal Spin-Up and the Asymmetry Degree of Planetary Nebulae", Monthly Notices of the Royal Astronomical Society, **274**, 147-152 (1995).
50. Dgani, R., Soker, N. and Cadavid, M.L. "The Colliding Winds Overstability", Astronomical Journal, **110**, 1894-1900 (1995).
51. Soker, N. "H-Function Evolution During Violent Relaxation", Astrophysical Journal, **457**, 287-290 (1996).
52. Zoabi, E., Soker, N. and Regev, O. "Magnetically Uplifted Clumps in Cooling Flow Clusters", Astrophysical Journal, **460**, 244-251 (1996).
53. Soker, N. "What Planetary Nebulae Can Tell Us About Planetary Systems", Astrophysical Journal Letters, **460**, L53-L56 (1996).
54. Soker, N. "Destruction of Brown Dwarfs and Jet Formation in Planetary Nebulae", Astrophysical Journal, **468**, 774-778 (1996).
55. Soker, N. "Comments on the Formation of Elliptical Planetary Nebulae", Astrophysical Journal, **469**, 734-736 (1996).
56. Soker, N. "Stellar Bubbles Inside Planetary Nebulae", Monthly Notices of the Royal Astronomical Society, **283**, 1405-1408 (1996).
57. Soker, N. and Dgani R. "Interaction of Planetary Nebulae with a Magnetized ISM", Astrophysical Journal, **484**, 277-285 (1997).
58. Soker, N. and Zucker, D.B. "The Interaction of the Planetary Nebula NGC 6894 with the ISM Magnetic Field", Monthly Notices of the Royal Astronomical Society, **289**, 665-670 (1997).
59. Harpaz, A., Rappaport, S. and Soker, N. "The Rings Around the Egg Nebula", Astrophysical Journal, **487**, 809-817 (1997).
60. Soker, N. "Properties that Cannot be Explained by the Progenitors of Planetary Nebulae", Astrophysical Journal Supplement, **112**, 487-505 (1997).
61. Soker, N. "Interaction of Radio Jets with Magnetic Fields in Clusters of Galaxies", Astrophysical Journal, **488**, 572-578 (1997).
62. Dgani, R. and Soker, N. "Instabilities in Moving Planetary Nebulae", Astrophysical Journal, **495**, 337-345 (1998).
63. Soker, N. "Binary Progenitors Models for Bipolar Planetary Nebulae", Astrophysical Journal, **496**, 833-841 (1998).
64. Soker, N., Rappaport, S. and Harpaz, A. "Eccentric Binary Model for Off-Center Planetary Nebula Nuclei", Astrophysical Journal, **496**, 842-848 (1998).

65. Zoabi, E., Soker, N. and Regev, O. "Dynamics of Magnetic Flux Loops in Cooling Flow Clusters of Galaxies", Monthly Notices of the Royal Astronomical Society, **296**, 579-584 (1998).
66. Dgani, R. and Soker, N. "Nonthermal Radio Emission from Planetary Nebulae", Astrophysical Journal Letters, **499**, L83-L86 (1998).
67. Godon, P., Soker, N. and White III, R.E. "Amplification of Magnetic Fields in the Centers of Cluster Cooling Flows", Astronomical Journal, **116**, 37-43 (1998).
68. Harpaz, A. and Soker, N. "Radiation from a Uniformly Accelerated Charge", General Relativity and Gravitation, **30**, 1217-1227 (1998).
69. Soker, N. "Radially Aligned Clumps and Tails in Planetary Nebulae", Monthly Notices of the Royal Astronomical Society, **299**, 562-566 (1998).
70. Soker, N. "Can Planets Influence the Horizontal Branch Morphology?", Astronomical Journal, **116**, 1308-1313 (1998).
71. Soker, N. and Regev, O. "Disturbed Fliers in Planetary Nebulae", Astronomical Journal, **116**, 2462-2465 (1998).
72. Soker, N. "Magnetic Field, Dust, and Axisymmetrical Mass Loss on the AGB", Monthly Notices of the Royal Astronomical Society, **299**, 1242-1248 (1998).
73. Soker, N. "A Model for the Outer Rings of SN1987A", Monthly Notices of the Royal Astronomical Society, **303**, 611-615 (1999).
74. Soker, N. "Detecting Planets in Planetary Nebulae", Monthly Notices of the Royal Astronomical Society, **306**, 806-808 (1999).
75. Soker, N. and Clayton, G.C. "Dust Formation Above Cool Magnetic Spots in Evolved Stars", Monthly Notices of the Royal Astronomical Society, **307**, 993-1000 (1999).
76. Soker, N. "Visual Wide Binaries and the Structure of Planetary Nebulae", Astronomical Journal, **118**, 2424-2429 (1999).
77. Soker, N. and Harpaz, A. "Stellar Structure and Mass Loss on the Upper Asymptotic Giant Branch", Monthly Notices of the Royal Astronomical Society, **310**, 1158-1164 (1999).
78. Soker, N. "Dust Formation and Inhomogeneous Mass Loss from Asymptotic Giant Branch Stars", Monthly Notices of the Royal Astronomical Society, **312**, 217-224 (2000).
79. Soker, N. "Eccentric Orbits of Close Companions to Asymptotic Giant Branch Stars", Astronomy and Astrophysics, **357**, 557-560 (2000).

80. Soker, N. and Rappaport, S. "The Formation of Very Narrow Waist Bipolar Planetary Nabulae", *Astrophysical Journal*, **538**, 241-259 (2000).
81. Soker, N. "A Solar-Like Cycle in Asymptotic Giant Branch Stars", *Astrophysical Journal*, **540**, 436-441 (2000).
82. Soker, N. and Harpaz, A. "Rotation, Planets and the 'Second Parameter' of the Horizontal Branch", *Monthly Notices of the Royal Astronomical Society*, **317**, 861-866 (2000).
83. Soker, N. "Asymmetry and Inhomogeneity in Proto- and Young Planetary Nabulae", *Monthly Notices of the Royal Astronomical Society*, **318**, 1017-1022 (2000).
84. Kastner, J.H., Soker, N., Vrtilik, S.D. and Dgani, R. "Chandra X-Ray Observatory Detection of Extended X-Ray Emission from the Planetary Nebula BD +30°3639". *Astrophysical Journal Letters*, **545**, L57-L59 (2000).
85. Harpaz, A. and Soker, N. "Origin of the Radiation Reaction Force", *International Journal of Theoretical Physics*, **39**, 2867-2874 (2000).
86. Soker, N., White, R.E., III, David, L.P. and McNamara, B.R. "A Moderate Cluster Cooling Flow Model". *Astrophysical Journal*, **549**, 832-839 (2001).
87. Kastner, J.H., Vrtilik, S.D. and Soker, N. "Discovery of Extended X-Ray Emission from the Planetary Nebula NGC 7027 by the Chandra X-Ray Observatory". *Astrophysical Journal Letters*, **550**, L189-L192 (2001).
88. Livio, M. and Soker, N. "The 'Twin Jet' Planetary Nebula M2-9". *Astrophysical Journal*, **552**, 685-691 (2001).
89. Soker, N. and Hadar, R. "The 'Second Parameter': A Memory from the Globular Cluster Formation Epoch", *Monthly Notices of the Royal Astronomical Society*, **324**, 213-217 (2001).
90. Soker, N. "Extrasolar Planets and the Rotation and Axisymmetric Mass-loss of Evolved Stars". *Monthly Notices of the Royal Astronomical Society*, **324**, 699-704 (2001).
91. Soker, N. "The Departure of Eta Carinae from Axisymmetry and the Binary Hypothesis". *Monthly Notices of the Royal Astronomical Society*, **325**, 584-588 (2001).
92. Soker, N. and Rappaport, S. "Departure from Axisymmetry in Planetary Nabulae". *Astrophysical Journal*, **557**, 256-265 (2001).
93. Soker, N. "Collimated Fast Winds in the Wide Binary Progenitors of Planetary Nabulae". *Astrophysical Journal*, **558**, 157-164 (2001).
94. Soker, N., "A model for the strings of η Carinae", *Astronomy & Astrophysics*, **377**, 672-676 (2001).

95. Soker, N., Catelan, M., Rood, R. T., and Harpaz, A. "A Superwind from Early Post-Red Giant Stars?", *Astrophysical Journal Letters*, **536**, L69-L72 (2001).
96. Soker, N., Rappaport, S., and Fregeau, J. "Collisions of Free-floating Planets with Evolved Stars in Globular Clusters", *Astrophysical Journal Letters*, **563**, L87-L90 (2001).
97. Soker, N. "Backflow in post-asymptotic giant branch stars", *Monthly Notices of the Royal Astronomical Society*, **328**, 1081-1084 (2001)
98. Soker, N., and Zoabi, E. "Turbulent dynamo in asymptotic giant branch stars", *Monthly Notices of the Royal Astronomical Society*, **329**, 204-208 (2002)
99. Soker, N. "Why every bipolar planetary nebula is 'unique' ", *Monthly Notices of the Royal Astronomical Society*, **330**, 481-486 (2002)
100. Soker, N. and Hadar, R. "Classification of Planetary Nebulae by their Departure from Axisymmetry", *Monthly Notices of the Royal Astronomical Society*, **331**, 731-735 (2002)
101. Soker, N. "Formation of Bipolar Lobes by Jets", *Astrophysical Journal*, **568**, 726-732 (2002)
102. Soker, N. "On the Formation of Multiple Arcs Around Asymptotic Giant Branch Stars", *Astrophysical Journal*, **570**, 369-372 (2002)
103. Soker, N. and Kastner, J.H. "X-Ray Emission from Central Binary Systems of Planetary Nebulae." *Astronomical Journal*, **570**, 245-251 (2002).
104. Soker, N. "Spherical Planetary Nebulae." *Astronomy and Astrophysics*, **386**, 885-890 (2002)
105. De Marco, O. and Soker, N. "A New Look at the Evolution of Wolf-Rayet Central Stars of Planetary Nebulae." *Publications of the Astronomical Society of the Pacific*, **114**, 602-611 (2002)
106. Livio, M. and Soker, N. "The Effects of Planets and Brown Dwarfs on Stellar Rotation and Mass Loss." *Astrophysical Journal Letters*, **571**, 161-164(2002)
107. Soker, N., Blanton, E.L. and Sarazin, C.L. "Hot Bubbles in Cooling Flow Clusters" *Astrophysical Journal*, **573**, 533-537 (2002)
108. Martin, J, Xilouris, K, Soker, N. "The Early Interaction of the Planetary Nebula NGC 40 with the Interstellar Medium", *Astronomy and Astrophysics*, **391**, 689-692(2002)
109. Soker, N., "Formation of Double Rings Around Evolved Stars", *Astrophysical Journal* , **577**, 839-844 (2002).

110. Soker, N. "Local Circumstellar Magnetic Fields Around Evolved Stars", Monthly Notices of Royal Astronomical Society, **336**, 826-830 (2002).
111. Soker, N. "Comments on the Final Orbital Separation in Common Envelope Evolution", Monthly Notices of the Royal Astronomical Society, **336**, 1229-1233 (2002)
112. Soker, N. "Magnetic activity of the cool component in symbiotic systems", Monthly Notices of the Royal Astronomical Society, **337**, 1038-1042 (2002).
113. Kastner, J.H., Li, J., Vrtilik, S.D., Gatley, I., Merrill, K.M. and Soker, N. "On the asymmetries of Extended X-ray emission from Planetary Nebulae", Astrophysical Journal, **581**, 1225-1235 (2002).
114. Soker, N. and Tytenda, R. "Main-Sequence Stellar Eruption Model for V838 Monocerotis", Astrophysical Journal Letters, **582**, L105-108 (2003).
115. Soker, N., and Kastner, J. H., "On the Luminosities and Temperatures of Extended X-ray Emission from Planetary Nebulae" Astrophysical Journal, **583**, 368-373 (2003).
116. Maness, H. L., Vrtilik, S. D., Kastner, J., and Soker, N. "Abundance Anomalies in the X-Ray Spectra of Planetary Nebulae NGC 7027 and BD +30°3639", Astrophysical Journal, **589**, 439-443 (2003).
117. Soker, N., and David, L. P., "Observed Non-Steady State Cooling and the Moderate Cluster Cooling Flow Model", Astrophysical Journal, **589**, 770-773 (2003).
118. Soker, N. "Problems in suppressing cooling flows in clusters of galaxies by global heat conduction ", Monthly Notices of the Royal Astronomical Society, **342**, 463-466 (2003).
119. Kastner, J. H., Balick, B., Blackman, E. G., Frank, A., Soker, N., Vrtilik, S. D., and Li, J., "A Compact X-Ray Source and Possible X-Ray Jets within the Planetary Nebula Menzel 3", Astrophysical Journal Letters, **591**, L37-L40 (2003).
120. Soker, N., and Kastner, J. H., "Magnetic Flares on Asymptotic Giant Branch Stars" Astrophysical Journal, **592**, 498-503 (2003)
121. Soker, N., and Regev, O. "Launching jets from the boundary layer of accretion disks in young stellar objects", Astronomy and Astrophysics, **406**, 603-611 (2003).
122. Soker, N. and Harpaz, A., "Criticism of recent calculations of common envelope ejection", Monthly Notices of the Royal Astronomical Society, **343**, 456-458 (2003).
123. Soker, N., "Accretion-Induced Collimated Fast Wind Model for η Carinae",

- Astrophysical Journal, **597**, 513-517 (2003).
124. Soker, N., "Pairs of Bubbles in Planetary Nebulae and Clusters of Galaxies", The Publications of the Astronomical Society of the Pacific, **115**, 1296-1300 (2003).
 125. Soker, N., "Bubbles in Planetary Nebulae and Clusters of Galaxies: Jet Properties", Astronomy and Astrophysics, **414**, 943-947 (2004).
 126. Soker, N. and Harpaz, A., "Radiation from a Charge Supported in a Gravitational Field", General Relativity and Gravitation, **36**, 315-330 (2004).
 127. Soker, N., "Cooling by Heat Conduction Inside Magnetic Flux Loops and the Moderate Cluster Cooling-Flow Model", Monthly Notices of the Royal Astronomical Society, **350**, 1015-1021 (2004).
 128. Soker, N., "Bubbles in Planetary Nebulae and Clusters of Galaxies: Instabilities at Bubble Fronts", New Astronomy, **9**, 285-290 (2004).
 129. Kastner, J. H., and Soker, N., "Constraining the X-ray Luminosities of Asymptotic Giant Branch Stars: TX Cam and T Cas", Astrophysical Journal, **608**, 978-982 (2004).
 130. Soker, N., "Wind Accretion by a Binary Stellar System and Disk Formation", Monthly Notices of the Royal Astronomical Society, **350**, 1366-1372 (2004).
 131. Soker, N., "Energy and Angular Momentum Deposition During Common Envelope Evolution", New Astronomy, **9**, 399-408 (2004).
 132. Soker, N., Blanton, E.L., and Sarazin, C.L., "Cooling of X-ray Emitting Gas by Heat Conduction in the Center of Cooling Flow Clusters", Astronomy and Astrophysics, **422**, 445-452 (2004).
 133. Soker, N., and Lasota, J.-P., "The Absence of Jets in Cataclysmic Variable Stars", Astronomy and Astrophysics, **422**, 1039-1043 (2004).
 134. Soker, N., "Why a Single-Star Model Cannot Explain the Bipolar Nebula of Eta Carinae", Monthly Notices of the Royal Astronomical Society, **612**, 1060-1064 (2004).
 135. Kastner, J. H., and Soker, N., "X-Rays from the Mira AB Binary System", Astrophysical Journal, **616**, 1188-1192 (2004)
 136. Soker, N., "The Shaping of the Red Rectangle Proto-Planetary Nebula", Astronomical Journal, **129**, 947-953 (2005).
 137. Soker, N., "The Binarity of Eta Carinae and its Similarity to Related Astrophysical Objects", Astrophysical Journal, **619**, 1064-1071 (2005).
 138. Soker, N., and Pizzolato, F., "Feedback Heating with Slow Jets in Cooling Flow Clusters", Astrophysical Journal, **622**, 847-852 (2005).

139. Soker, N., "Interaction of young stellar object jets with their accretion disk"
Astronomy and Astrophysics, **435**, 125-129 (2005).
140. Tylenda, R. Soker, N., and Szczerba, R. "On the progenitor of V838 Monocerotis",
Astronomy and Astrophysics, **441**, 1099-1109 (2005)
141. Pizzolato, F., and Soker, N., "On the Nature of Feedback Heating in
Cooling Flow Clusters", *Astrophysical Journal*, **632**, 821-830 (2005)
142. Soker, N., and Subag, E., "A Possible Hidden Population of Spherical
Planetary Nebulae", *Astronomical Journal*, **130**, 2717-2724 (2005)
143. Montez Jr., R., Kastner, J. H., De Marco, O., and Soker, N., "X-ray Imaging of
Planetary Nebulae with Wolf-Rayet-type Central Stars: Detection of the
Hot Bubble in NGC 40", *Astrophysical Journal*, **635**, 381-385 (2005)
144. Soker, N., "Accretion by the Secondary in Eta Carinae During the
Spectroscopic Event: I. Flow Parameters", *Astrophysical Journal*, **635**, 540-546
(2005)
145. Pizzolato, F., & Soker, N., "Binary Black Holes at the Core of Galaxy Clusters"
Advances in Space Research, **36**, 762-766 (2005)
146. Soker, N., "Why Magnetic Fields Cannot be the Main Agent Shaping
Planetary Nebulae", *Publications of the Astronomical Society of the Pacific*,
118, 260-269 (2006)
147. Soker, N., "Photospheric Opacity and Over-Expanded Envelopes of
Asymptotic Giant Branch Stars", *New Astronomy*, **11**, 396-403 (2006)
148. Soker, N., "Accreting White Dwarfs among the Planetary Nebulae
Most Luminous in [O III] λ 5007 Emission", *Astrophysical Journal*,
640, 966-970 (2006)
149. Tylenda, R., and Soker, N., "Eruptions of the V838~Mon Type: Stellar Merger
Versus Nuclear Outburst Models", *Astronomy and Astrophysics*, **451**, 223-236
(2006)
150. Akashi, M., Soker, N., & Behar, E., "Accretion onto the Companion of
Eta Carinae during the Spectroscopic Event: II. X-Ray Emission Cycle",
Astrophysical Journal, **644**, 451-463 (2006)
151. Akashi, M., Soker, N., & Behar, E., "X-Ray Emission by a Shocked Fast Wind
from the Central Stars of Planetary Nebulae", *Monthly Notices of the Royal
Astronomical Society*, **368**, 1706-1716 (2006)
152. Soker, N., "Observed Planetary Nebulae as Descendants of Interacting Binary
Systems", *Astrophysical Journal Letter*, **645**, L57-L60 (2006)

153. Soker, N., & Bisker, G., "Bubbles in Planetary Nebulae and Clusters of Galaxies: Jet Bending" Monthly Notices of the Royal Astronomical Society, **369**, 1115-1122 (2006)
154. Pizzolato, F., & Soker, N., "On the Rayleigh-Taylor Instability of Radio Bubbles in Galaxy Clusters", Monthly Notices of the Royal Astronomical Society, **371**, 1835-1848, (2006)
155. Soker, N., "The Source of Mass Accreted by the Central Black Hole in Cooling Flow Clusters", New Astronomy, **12**, 38-46 (2006)
156. Soker, N., & Behar, E., "Accretion onto the Companion of Eta Carinae During the Spectroscopic Event: III. the He II 4686 Line", Astrophysical Journal, **652**, 1563-1571 (2006)
157. Soker, N., & Tylenda, R., "Violent Stellar Merger Model for Transient Events", Monthly Notices of the Royal Astronomical Society, **373**, 733-738. (2006)
158. Sternberg, A., Pizzolato, F., & Soker, N., "Inflating Fat Bubbles in Clusters of Galaxies by Wide Jets", Astrophysical Journal Letter, **656**, L5-L8. (2007)
159. Akashi, M., Soker, N., & Behar, E., & Blondin, J. "X-Ray Emission from Planetary Nebulae Calculated by 1D Spherical Numerical Simulations", Monthly Notices of the Royal Astronomical Society, **375**, 137-144 (2007)
160. Soker, N., & Tylenda, R., "Magnetic Activity in Stellar Merger Products", Monthly Notices of the Royal Astronomical Society, **375**, 909-912 (2007)
161. Soker, N. and Harpaz, A., "Overluminous Blue Horizontal-Branch Stars Formed by Low-Mass Companions", Astrophysical Journal, **660**, 699-703 (2007)
162. Soker, N., "Accretion onto the Companion of Eta Carinae During the Spectroscopic Event. IV. The Disappearance of Highly Ionized Lines", Astrophysical Journal, **661**, 482-489 (2007)
163. Soker, N., "Comparing Eta Carinae with the Red Rectangle", Astrophysical Journal, **661**, 490-495 (2007)
164. Kashi, A., & Soker, N. "Modelling the Radio Light Curve of Eta Carinae", Monthly Notices of the Royal Astronomical Society, **378**, 1609-1618 (2007)
165. Behar, E., Nordon, R., & Soker, N. "A hot transient outflow in Eta Carinae", Astrophysical Journal Letter, **666**, L97-L100 (2007)
166. Soker, N., & Hershenhorn, A., "Expected Planets in Globular Clusters", Monthly Notices of the Royal Astronomical Society, **381**, 334-340 (2007)
167. Kashi, A., & Soker, N. "The Source of the Helium Visible Lines in Eta Carinae", New Astronomy, **12**, 590-596 (2007)
168. Soker, N., "Defining the Termination of the Asymptotic Giant Branch",

Astrophysical Journal Letter, **674**, L49-L52 (2008)

169. Sternberg, A., & Soker, N., "Inflating Fat Bubbles in Clusters of Galaxies by Precessing Massive Slow Jets", Monthly Notices of the Royal Astronomical Society, **384**, 1327-1336 (2008)
170. Akashi, M., & Soker, N., "A Model for the Formation of Large Circumbinary Disks around post AGB Stars", New Astronomy, **13**, 157-162 (2008)
171. Soker, N., "The Formation of Slow-Massive-Wide Jets", New Astronomy, **13**, 296-303 (2008)
172. Soker, N., "Entropy limit and the Cold Feedback Mechanism in Cooling Flow Clusters", Astrophysical Journal Letter, **684**, L5-L8 (2008)
173. Sternberg, A., & Soker, N., "Rising Jet-Inflated Bubbles in Clusters of Galaxies", Monthly Notices of the Royal Astronomical Society Letters, **389**, L13-L17 (2008)
174. Soker, N., "A phenomenological Model for the Extended Zone Above AGB Stars", New Astronomy, **13**, 491-497 (2008)
175. Kashi, A., & Soker, N. "The Orientation of the Eta Carinae Binary System", Monthly Notices of the Royal Astronomical Society, **390**, 1751-1761 (2008)
- 176 Akashi, M., Meiron, Y. & Soker, N., "X-Ray Emission from Jet-Wind Interaction in Planetary Nebulae", New Astronomy, **13**, 563-568 (2008)
177. Kashi, A., & Soker, N. "Accretion onto the Companion of Eta Carinae During the Spectroscopic Event. V. The Infrared Decline", New Astronomy, **13**, 569-580 (2008)
178. Akashi, M., & Soker, N. "Shaping Planetary Nebulae and Related Objects by Light Jets", Monthly Notices of the Royal Astronomical Society, **391**, 1063-1074 (2008)
179. Yu, Y. S., Nordon, R., Kastner, J. H., Houck, J., Behar, E., & Soker, N., "The X-Ray Spectrum of a Planetary Nebula at High Resolution: Chandra Gratings Spectroscopy of BD+30 3639", Astrophysical Journal, **690**, 440-452 (2009)
180. Kashi, A., & Soker, N. "Possible Implications of Mass Accretion in Eta Carinae", New Astronomy, **14**, 11-24 (2009)
181. Nordon, R., Behar, E., Soker, N., Kastner, J. H., & Yu, Y. S., "Narrow Radiative Recombination Continua: A Signature of Ions Crossing the Contact Discontinuity of Astrophysical Shocks" Astrophysical Journal **695**, 834-843 (2009)
182. Kashi, A., & Soker, N. "Prediction for the He I 10830A Absorption Wing in the Coming Event of Eta Carinae", Monthly Notices of the Royal Astronomical Society, **394**, 923-928 (2009)
183. Sternberg, A., & Soker, N., "Sound Waves Excitation by Jet-Inflated Bubbles in

- Clusters of Galaxies", Monthly Notices of the Royal Astronomical Society **395**, 228-233 (2009)
184. Kashi, A. & Soker, N., "Explaining the Early Exit of Eta Carinae from its 2009 X-ray Minimum with the Accretion Model", Astrophysical Journal Letter **701**, L59-L62 (2009)
185. Kashi, A. & Soker, N., "Using X-Ray Observations to Explore the Binary Interaction in Eta Carinae", Monthly Notices of the Royal Astronomical Society, **397**, 1426-1434 (2009)
186. Harpaz, A. & Soker, N. "Triggering Eruptive Mass Ejection in Luminous Blue Variableness", New Astronomy, **14**, 539-544 (2009)
187. Sternberg, A., & Soker, N., "Explaining the Energetic AGN Outburst of MS0735+7421 with Massive slow Jets", Monthly Notices of the Royal Astronomical Society, **398**, 422-428 (2009)
188. Soker, N., "Correlation of Black Hole-Bulge Masses by AGN Jets", Monthly Notices of the Royal Astronomical Society **398**, L41-L43 (2009),
189. Frankowski, A. & Soker, N., "Comparing Symbiotic Nebulae and Planetary Nebulae Luminosity Functions", Astrophysical Journal Letters, **703**, L95-L98 (2009)
190. Frankowski, A. & Soker, N., "Very late thermal pulses influenced by accretion in planetary nebulae", New Astronomy, **14**, 654-658 (2009)
191. Kashi, A., Frankowski A., & Soker, N., "NGC 300 OT2008-1 as a Scaled-Down Version of the Eta Carinae Great Eruption", Astrophysical Journal Letters, **709**, L11-L15 (2010)
192. Soker, N., "Applying the Jet Feedback Mechanism to Core-Collapse Supernova Explosions", Monthly Notices of the Royal Astronomical Society, **401**, 2793-2798 (2010)
193. Soker, N., Frankowski A., & Kashi, A. "Galactic vs. Extragalactic Origin of the Peculiar Transient SCP06F6", New Astronomy, **15**, 189-197 (2010)
194. Antonini, F., Montez, R., Jr., Kastner, J. H., Bond, H. E., Soker, N., Tylenda, R., Starrfield, S., & Behar, E., "XMM-Newton Detection of a Transient X-ray Source in the Vicinity of V838 Monocerotis", Astrophysical Journal **717**, 795-802 (2010)
195. Bear, E. & Soker, N. "Spinning-Up the Envelope Before Entering a Common Envelope Phase", New Astronomy, **15**, 483-490 (2010)
196. Soker, N., "Was an Outburst of Aquila X-1 a Magnetic Flare", Astrophysical Journal Letters, **721**, L189-L192 (2010)

197. Soker, N., "A Moderate Cooling Flow Phase at Galaxy Formation", Monthly Notices of the Royal Astronomical Society, **407**, 2355-2361 (2010)
198. Pizzolato, F. & Soker, N. "Solving the Angular Momentum Problem in the Cold Feedback Mechanism of Cooling Flows", Monthly Notices of the Royal Astronomical Society, **408**, 961-974 (2010)
199. Kashi, A. & Soker, N., "Periastron Passage Triggering of the 19th Century Eruption of Eta Carinae", Monthly Notices of the Royal Astronomical Society, **723**, 602-611 (2010)
200. Soker, N., Rahin, R., Behar, E., & Kastner, J. H. "Comparing Shocks in Planetary Nebulae with the Solar Wind Termination Shock", Astrophysical Journal **725**, 1910-1917 (2010)
201. Kashi, A. & Soker, N., "The Outcome of the Protoplanetary Disk of Very Massive Stars", New Astronomy, **16**, 27-32 (2011)
202. Bear, E. & Soker, N. "Connecting Planets Around Horizontal Branch Stars with Known Exoplanets", Monthly Notices of the Royal Astronomical Society, **411**, 1792-1802 (2011)
203. Soker, N. & Meiron, Y. "Correlation of Black Hole Bulge Masses: Driven by Energy but Correlated with Momentum", Monthly Notices of the Royal Astronomical Society, **411**, 1803-1808 (2011)
204. De Marco, O. & Soker, N. "The role of planets in shaping planetary nebulae", Publications of the Astronomical Society of the Pacific, **902**, 402-411 (2011)
205. Bear, E., Soker, N. & Harpaz, A. "Possible Implications of the Planet Orbiting the Red Horizontal Branch Star HIP 13044", Astrophysical Journal Letters, **733**, L44 (2011)
206. Kashi, A., Soker, N. & Akashi, M., "Explaining the Transient Fast Blue Absorption Lines in the Massive Binary System Eta Carinae", Monthly Notices of the Royal Astronomical Society, **413**, 2658-2664 (2011)
207. Bear, E. & Soker, N. "Evaporation of Jupiter-Like Planets Orbiting Extreme Horizontal Branch Stars", Monthly Notices of the Royal Astronomical Society, **414**, 1788-1792 (2011)
208. Papish, O. & Soker, N. "Exploding Core-Collapse Supernovae with Jittering Jets", Monthly Notices of the Royal Astronomical Society, **416**, 1697-1702 (2011)
209. Bear, E., Kashi, A. & Soker, N. "Mergerburst Transients of Brown Dwarfs with Exoplanets", Monthly Notices of the Royal Astronomical Society, **416**, 1965-1970 (2011)
210. Kashi, A. & Soker, N. "A Circumbinary Disk in the Final Stages of Common

- Envelope and the Core-Degenerate Scenario for Type Ia Supernovae", Monthly Notices of the Royal Astronomical Society, **417**, 1466-1479 (2011)
211. Ilkov, M. & Soker, N. "Type Ia Supernovae from Very Long Delayed Explosion of Core-WD merger", Monthly Notices of the Royal Astronomical Society, **419**, 1695-1700 (2012)
212. Soker, N. & Kashi, A. "Formation of Bipolar Planetary Nebulae by Intermediate-Luminosity Optical Transients", Astrophysical Journal, **746**, 100 (2012)
213. Bear, E. & Soker, N., "A Tidally Destroyed Massive Planet as the Progenitor of the Two Light Planets Around the sdB Star KIC 05807616", Astrophysical Journal Letters, **749**, L14 (2012)
214. Papish, O. & Soker, N. "Nucleosynthesis of R-Process Elements by Jittering Jets in Core-Collapse Supernovae", Monthly Notices of the Royal Astronomical Society, **421**, 2763-2768 (2012)
215. Refaelovich, M. & Soker, N., "Inflating a Chain of X-Ray Deficient Bubbles by a Single Jet Activity Episode", Astrophysical Journal Letters, **755**, L3 (2012)
216. Soker, N. & Kashi, A. "The Interaction of the Eta Carinae Primary Wind with the Century Old Slow Equatorial Ejecta", New Astronomy, **17**, 616-623 (2012)
217. Gilkis, A. & Soker, N., "Heating the Intra-Cluster Medium Perpendicular to the Jets Axis", Monthly Notices of the Royal Astronomical Society, **427**, 1482-1489 (2012)
218. Ilkov, M. & Soker, N. "The Number of Progenitors in the Core – Degenerate Scenario for Type Ia Supernovae", Monthly Notices of the Royal Astronomical Society, **428**, 579-586 (2013)
219. Soker, N. "Merger by Migration at the Final Phase of Common Envelope Evolution", New Astronomy, **18**, 18–22 (2013)
220. Akashi, M., Kashi, A. & Soker, N. "Accretion of Dense Clumps in the Periastron Passage of Eta Carinae", New Astronomy, **18**, 23-30 (2013)
221. Soker, N. & Kashi, A., "Explaining the Supernova Impostor SN 2009ip as Mergerburst", Astrophysical Journal Letters, **764**, L6 (2013)
222. Tsebrenko, D., Akashi, M., & Soker, N., "Numerical simulations of wind-equatorial gas interaction in Eta Carinae", Monthly Notices of the Royal Astronomical Society, **429**, 294-301 (2013)
223. Bear, E. & Soker, N., "Transient Outburst Events From Tidally Disrupted Asteroids Near White Dwarfs", New Astronomy, **19**, 56–61 (2013)
224. Hillel, S. & Soker, N., "Suppressing Hot Gas Accretion to Supermassive Black Holes by Stellar Winds", Monthly Notices of the Royal Astronomical

- Society, **430**, 1970-1975, (2013)
225. Soker, N., Kashi, A., Garcia-Berro, E., Torres, S., & Camacho, J., "Explaining the Type Ia supernova PTF 11kx with the Core Degenerate Scenario", Monthly Notices of the Royal Astronomical Society, **431**, 1541-1546, (2013)
226. Soker, N. & Mcley, L., "Steady Twin-Jets Orientation: Implications For Their Formation Mechanism", Astrophysical Journal Letters, **772**, L22 (2013)
227. Tsebrenko, D. & Soker, N., "Type Ia Supernovae inside Planetary Nebulae: Shaping by Jets", Monthly Notices of the Royal Astronomical Society, **435**, 320-328, (2013)
228. Tsebrenko, D. & Soker, N., "Accelerating very fast gas in the supernova impostor SN 2009ip with jets from a stellar companion", Astrophysical Journal Letters, **777**, L35 (2013)
229. Akashi, M. & Soker, N., "Impulsive Ejection of Gas in Bipolar Planetary Nebulae", Monthly Notices of the Royal Astronomical Society, **436**, 1961-1967 (2013)
230. Kashi, A., Soker, N., & Moskovitz, N., "Powering the Second 2012 Outburst of SN 2009ip by Repeating Binary Interaction", Monthly Notices of the Royal Astronomical Society, **436**, 2484-2491 (2013)
231. Bear, E. & Soker, N., "Planetary influences on photometric variations of the extreme helium subdwarf KIC10449976", Monthly Notices of the Royal Astronomical Society, **437**, 1400-1403 (2014)
232. Soker, N., Garcia-Berro, E. & Althaus, L. G., "The explosion of Supernova 2011fe in the Frame of the Core-Degenerate Scenario", Monthly Notices of the Royal Astronomical Society, **437**, L66-L70 (2014)
233. Papish, O. & Soker, N., "Exploding Core-Collapse Supernovae by Jets-Driven Feedback Mechanism", Monthly Notices of the Royal Astronomical Society, **438**, 1027-1037 (2014)
234. Sabach, E. & Soker, N., "A pre-explosion optical transient event from a white dwarf merger with a giant supernova progenitor", Monthly Notices of the Royal Astronomical Society, **439**, 954-967 (2014)
235. Gilkis, A. & Soker, N., "Triggering jet-driven explosions of core-collapse supernovae by accretion from convective regions", Monthly Notices of the Royal Astronomical Society, **439**, 4011-4017 (2014)
236. Mcley, L. & Soker, N., "Limits on core-driven ILOT outbursts of asymptotic giant branch stars", Monthly Notices of the Royal Astronomical Society, **440**, 582-587 (2014)
237. Papish, O. & Soker, N., "A Planar Jitternig-Jets Pattern in Core-Collapse

- Supernova Explosions", Monthly Notices of the Royal Astronomical Society, **443**, 664-670 (2014)
238. Bear, E. & Soker, N., "First versus second generation planet formation in post common envelope binary (PCEB) planetary systems", Monthly Notices of the Royal Astronomical Society, **444**, 1698-1704 (2014)
239. Soker, N., "What sodium absorption lines tell us about type Ia supernovae", Monthly Notices of the Royal Astronomical Society, **444**, L73-L77 (2014)
240. McIey, L. & Soker, N., "Wave-driven stellar expansion and binary interaction in pre-supernova outbursts", Monthly Notices of the Royal Astronomical Society, **445**, 2492-2499 (2014)
241. Hillel, S. & Soker, N., "Heating Cold Clumps by Jet-inflated Bubbles in Cooling Flow Clusters", Monthly Notices of the Royal Astronomical Society, **445**, 4161-4174 (2014)
242. Soker, N., "Close Stellar binary systems by grazing envelope evolution", Astrophysical Journal, **800**, 114 (2015)
243. Tsebrenko, D. & Soker, N., "The fraction of type Ia supernovae exploding inside planetary nebulae (SNIPs)", Monthly Notices of the Royal Astronomical Society, **447**, 2568-2574 (2015)
244. Levanon, N., Soker, N., & Gracia-Berro, E., "Constraining the double-degenerate scenario for Type Ia supernovae from merger ejected matter", Monthly Notices of the Royal Astronomical Society, **447**, 2803-2809 (2015)
245. Papish, O., Nordhaus, J., & Soker, N., "A call for a paradigm shift from neutrino-driven to jet-driven core-collapse supernova mechanisms", Monthly Notices of the Royal Astronomical Society, **448**, 2362-2367 (2015)
246. Papish, O., Soker, N., & Bukay, I., "Ejecting the envelope of red supergiant stars with jets launched by an inspiraling neutron star", Monthly Notices of the Royal Astronomical Society, **449**, 288-295 (2015)
247. Papish, O., Soker, N., Garcia-Berro, E., & Aznar-Siguan, G., "The response of a helium white dwarf to an exploding type Ia supernova", Monthly Notices of the Royal Astronomical Society, **449**, 942-954 (2015)
248. Gilkis, A. & Soker, N., "Implications of turbulence for jets in core-collapse supernova explosions", Astrophysical Journal, **806**, 28-34 (2015)
249. Sabach, E. & Soker, N., "Binary systems of core collapse supernovae polluting a giant companion", Astrophysical Journal, **806**, 73-78 (2015)
250. Soker, N., "The circumstellar matter of supernova 2014J and the core-degenerate scenario", Monthly Notices of the Royal Astronomical Society, **450**, 1333-1337

(2015)

251. Tsebrenko, D. & Soker, N., "Modeling SNR G1.9+0.3 as a Supernova Inside a Planetary Nebula", Monthly Notices of the Royal Astronomical Society, **450**, 1399-1408 (2015)
252. Sabach, E. & Soker, N., "A formation scenario for the triple pulsar PSR J0337+1715: breaking a binary system inside a common envelope", Monthly Notices of the Royal Astronomical Society, **450**, 1716-1723 (2015)
253. Aznar-Siguan, G., Garcia-Berro, E., Loren-Aguilar, P., Soker, N. & Kashi, A., "Smoothed Particle Hydrodynamics simulations of the core-degenerate scenario for Type Ia supernovae", Monthly Notices of the Royal Astronomical Society, **450**, 2948-2962 (2015)
254. Bear, E. & Soker, N., "Planetary systems and real planetary nebulae from planets destruction near white dwarfs", Monthly Notices of the Royal Astronomical Society, **450**, 4233-4239 (2015)
255. Tsebrenko, D. & Soker, N., "Type Ia supernova remnants: shaping by iron bullets", Monthly Notices of the Royal Astronomical Society, **453**, 166-171 (2015)
256. Akashi, M., Sabach, E., Yogev, O., & Soker, N., "Forming Equatorial Rings Around Dying Stars", Monthly Notices of the Royal Astronomical Society, **453**, 2115-2125, (2015)
257. Soker, N., "Planetary nebula progenitors that swallow binary systems", Monthly Notices of the Royal Astronomical Society, **455**, 1584-1593(2016)
258. Hillel, S. & Soker, N., "Heating the intra-cluster medium by jet-inflated bubbles", Monthly Notices of the Royal Astronomical Society, **455**, 2139-2148 (2016)

IN PRESS

259. Garcia-Berro, E., Soker, N., Althaus, L. G., Ribas, I., & Morales, J. C., "Is the central binary system of the planetary nebula Henize 2-428 a Type Ia supernova progenitor?", New Astronomy, (2016)

FINAL ROUNDS:

260. Gilkis, A., & Soker, N., "Angular momentum fluctuations in the convective helium shell of massive stars", Astrophysical Journal, (2016)

Review

1. Soker, N., Akashi, M., Gilkis, A., Hillel, S., Papish, O., & Refaelovich, M., Tsebrenko, D., "The jet feedback mechanism (JFM): from supernovae to clusters of galaxies", Astronomische Nachrichten (2013)

Papers with many authors (My contribution is < 10%)

1. Kastner, J. H., Montez, R., Jr., Balick, B., et al. (total of 26 authors), "The Chandra X-ray Survey of Planetary Nebulae (ChanPlaNS): Probing Binarity, Magnetic Fields, and Wind Collisions", *Astrophysical Journal*, **144**, 58 (2012)
2. Ivanova, N., Justham, S., Chen, X., et al. (total of 19 authors), "Common Envelope Evolution: Where we stand and how we can move forward", *The Astronomy and Astrophysics Review*, **21**, 59 (2013)
3. Freeman, M., Kastner, J. H., Montez, R., et al. (total of 27 authors), "The Chandra Planetary Nebula Survey (ChanPlaNS). II. X-ray Emission from Compact Planetary Nebulae", *Astrophysical Journal*, **794**, 99 (2014)
4. Montez, R., Jr., Kastner, J. H., Balick, B., et al. (total of 28 authors), "The Chandra Planetary Nebula Survey (ChanPlaNS). III. X-Ray Emission from the Central Stars of Planetary Nebulae", *Astrophysical Journal*, **800**, 8 (2015)

Papers on astro-ph (electronic archive) only

1. Soker, N. and Harpaz, A., "Stellar structure and mass loss during the early post asymptotic giant branch" (astro-ph/0210586) (2002)
2. Behar, E., Nordon, R., Ben-Basat, E., & Soker, N. "A hot transient jet from Eta Carinae", (astro-ph/0606251) (2006)
3. Soker, N., "Bubbles in Planetary Nebulae and Clusters of Galaxies: Precessing Jets", (astro-ph/0608554) (2006)
4. Soker, N. "Further Indications Against Jet Rotation in Young Stellar Objects", (astro-ph/0703474) (2007)
5. Soker, N. & Vrtilek, S. D. Interpreting a Dwarf Nova Eruption as Magnetic Flare", (arXiv:0904.0681) (2009)
6. Akashi, M., & Soker, N. "3D Numerical Simulations of Mass Accretion in the Eta Carinae Binary system", (arXiv1006.3333) (2010)
7. Soker, N. "Magnetic Fields in Cooling Flow Clusters: A Critical View", (arXiv:1007.2249) (2010)
8. Pizzolato, F., Kelly, T., & Soker, N. "Correlation of AGN Jet Power with the Entropy Profile in Cooling Flow Clusters", (arXiv:1007.3512) (2010)

9. Lahav, C. G., Meiron, Y. & Soker, N., "The Limited Role of Mergers in Determining the Correlation between Black Hole and Bulge Masses", New Astronomy (arXiv:1112.0782) (2012)
10. Soker, N., "A Binary Scenario for the Pre-Explosion Outburst of the Supernovae 2010mc", (arXiv:1302.5037) (2013)
11. Soker, N., "Final common envelope ejection by migration and jets", (arXiv:1404.5234) (2014)
12. Shiber, S., Schreier, R., & Soker, N. "Massive Disk Outflows Mediated by Extreme Magnetic Fields", (arXiv:1504.04144) (2015)
13. Soker, N., "Astrophysical Naturalness", (arXiv: 1511.00536) (2015)