

Curriculum Vitæ

Name, surname : Emre Işık
Date and place of birth : Trabzon (Turkey), 7 October 1977
Nationality : Turkish
Address : Max Planck Institute for Solar System Research
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Education

BSc. (1994-1998) : Ege University, Faculty of Science,
Department of Astronomy and Space Sciences,
Izmir, Turkey
Diploma study: *Observational astrophysics: main results*
(in Turkish), mark: 100/100

MSc. (courses)
(1999 spring) : Ege University, Institute of Natural Sciences,
Department of Astronomy and Space Sciences,
Izmir, Turkey
(passed the written and oral exams for research
assistantship)

MSc. (1999-2002) : Akdeniz University, Institute of Natural Sciences,
Department of Physics, Antalya, Turkey
Thesis: *Investigation of magnetic-chromospheric
activity and orbital dynamics in the triple
K-dwarf system DH Leonis* (in Turkish)

PhD (courses)
(2002-2004) : Akdeniz University, Institute of Natural Sciences
Department of Physics, Antalya, Turkey

PhD (2005-2008) : Georg-August-Universität Göttingen (Germany)
Fakultät für Physik, Institut für Astrophysik
Thesis: *Magnetic flux generation and transport in cool stars*
Examination topics: astronomy and astrophysics,
stellar structure and evolution, hydrodynamics
Degree: *Magna cum laude* (very good) in both
the defence and the examination

Working experience

- Autumn 1999 - Spring 2005 : research assistant, Akdeniz University Institute of Natural Sciences, Department of Physics, Antalya, Turkey
- January 2005 - July 2008 : researcher, Max Planck Institute for Solar System Research, Katlenburg-Lindau, Germany. One of the eight selected members to represent the Institute's scientific performance at the meeting of the Scientific Advisory/Evaluation Committee, by giving a talk on his work (24-26 September 2007).

Teaching experience

- Autumn 1999 - Spring 2005 : Calculus I ve Calculus II practice (uygulama) courses, Physics laboratories (Mechanics, Waves, Optics), Akdeniz University, Faculty of Science and Literature, Dept. of Physics, Antalya, Turkey.
- 1994 - 2004 : seminars, meetings, summer schools, observations, popular activities, etc. organised by the astronomy clubs of Ege and Akdeniz Universities.
- 25-29 August 2003: 4-hour lecture in the national summer school "Mathematical methods in Astronomy - 1st Summer School of Basic Sciences". Lecture title: *Nonlinear astrophysical dynamo problem: analytical and numerical approaches* (in Turkish)

Computer experience

<i>Operating systems</i>	: UNIX/Linux, MS/Windows
<i>Computation, data analysis, scripts</i>	: IDL, Fortran (77/95), IRAF, BASH
<i>Text editing/markup, editors</i>	: L ^A T _E X, html, XEmacs, Kate, WinEdt

Responsibilities

- Student representative (2007) of the International Max Planck Research School (IMPRS) on the Physical Processes in the Solar System and Beyond
- Co-organiser of the IMPRS Retreat Week during the total solar eclipse in Antalya, Turkey (March 2006), with Dr. D. Schmitt - <http://www.solar-system-school.de/antalya/program.html>
- Webmaster of the Solar MHD Group web pages at the MPI for Solar Sys. Research - <http://www.mps.mpg.de/projects/solar-mhd/>

Fellowships

- January 2005 - January 2008 : PhD scholarship, Max Planck Society, Germany - as part of the International Max Planck Research School on the Physical Processes in the Solar System and Beyond - <http://www.solar-system-school.de/>
- January 2008 - July 2008 : postdoctoral research fellowship, Max Planck Institute for Solar System Research - <http://www.mps.mpg.de/>

Professional interests

Generation and dynamics of magnetic fields in cosmic plasmas (astrophysical magnetohydrodynamics), magnetic activity in the Sun and other cool stars, numerical MHD simulations confronting astronomical observations, chaos in dynamical systems, . . .

Publications in refereed scientific journals

- Işık, E., Schüssler, M., Solanki, S. K., 2007, Magnetic flux transport on active cool stars and starspot lifetimes, *Astronomy and Astrophysics*, 464, 1049 (published March '07; so far 6 citations in refereed papers)
- Işık, E., Schmitt, D., Schüssler, M., 2007, A coupled model of magnetic flux generation and transport in stars, *Astronomische Nachrichten*, 328, 1111 (published December '07; so far 2 citations in refereed papers)
- ★ Işık, E., Holzwarth, V., Schüssler, M., 2008, Flow instabilities in magnetic flux tubes IV: flux storage in the solar overshoot layer, **in preparation**, → *Astron. Astrophys.*
- ★ Işık, E., Schmitt, D., Schüssler, M., 2008, A combined model for magnetic flux generation and transport in active cool stars: connecting the deep-seated dynamo to the surface dynamics [tentative title!], **in preparation**, → *Astron. Astrophys.*

Contributed papers in conference proceedings

- Işık, E., Frasca, A., Aslan, Z., Messina, S., and Catalano, S., 2002, Short and Long Term Chromospheric Activity in the Triple System DH Leonis, in: *New Directions for Close Binary Studies: The Royal Road to the Stars*, Publications of Çanakkale 18 Mart University Astrophysics Research Center, p. 188
- Işık, E., 2004, Magnetic activity and orbital dynamics of the K-dwarf triple system DH Leonis, in: R. W. Hilditch, H. Hensberge and K. Pavlovski (eds.) *Spectroscopically and Spatially Resolving the Components of the Close Binary Stars*, ASP Conf. Ser., Vol. 318., pp. 251-254
- Işık, E., Taş, G., Evren, S., Tunca, Z., 2006, Photoelectric Photometry of Two Chromospherically Active Stars: HD 29697 (= V834 Tau) and HD 82443, *The Journal of the American Association of Variable Star Observers*, Vol. 35, No. 1, pp. 190-193
- Işık, E., Schüssler, M., Solanki, S. K., 2007, Magnetic flux transport and the lifetimes of spots on active cool stars, in: F. Kneer, K.G. Puschmann, A.D. Wittmann (eds.) *Modern solar facilities - advanced solar science*, Universitätsverlag Göttingen, pp. 367-369

Other publications

- Işık, E., 2003, Doğrusal olmayan astrofiziksel dinamo problemi: analitik ve sayısal yaklaşımlar, 1. Temel Bilimler Yaz Okulu: Astronomide Matematik Yöntemler, İstanbul Kültür Üniversitesi Yayınları, s. 81-97 (in Turkish) ISBN 975-6957-38-7
- Işık, E., 2008, Magnetic flux generation and transport in cool stars, *PhD thesis*, IMPRS on the Physical Processes in the Solar System and Beyond at the Universities of Braunschweig and Göttingen, Copernicus Publications, 107 pages, ISBN 978-3-936586-78-7

Proceeding papers for talks given in Turkish National Astronomical Meetings

- Işık, E., 2001, BY Draconis türü üçlü dizge DH Leonis'in tayfölcümü, *12. Ulusal Astronomi Toplantısı* (Eylül 2000), İzmir
- Işık, E., Aslan, Z. 2003, DH Leonis'in atmosfer etkinliği ve üçlü doğası, *13. Ulusal Astronomi Toplantısı* (Eylül 2002, Antalya), Ed.: E. Işık, C. Yeşilyaprak, T. Şahin, U.S. Özer, Z. Aslan, TÜBİTAK Ulusal Gözlemevi, s. 123-128
- Işık, E., Bikmaev, I., Aslan, Z., 2007, TUG RTT-150 Coudé Echelle Tayfçekeri ile Yapılan Deneme Gözlemleri, *14. Ulusal Astronomi Kongresi - 31 Ağustos – 4 Eylül 2004, Kayseri*, Ed.: F.F. Özeren ve İ. Küçük, s. 228-232
- Işık, E., 2007, Etkin soğuk yıldızlarda manyetik akının yüzeysel taşınımı ve yıldız lekelerinin ömürleri, *15. Ulusal Astronomi Kongresi, 25 Ağustos - 1 Eylül 2006, İstanbul Kültür Üniversitesi Yayınları*, s. 405-413

Other talks and posters

- Magnetic flux transport on active cool stars and starspot lifetimes, in: *Solar and Stellar Activity Cycles, 26th General Assembly of the International Astronomical Union, Joint Discussion 8* (Prague), 17-18 August 2006, (poster)
- Magnetic flux transport and spot lifetimes on active cool stars, in: *9th MHD Days, Max-Planck-Institut für Astronomie (Heidelberg)*, December 4-5, 2006 (talk)
- A coupled model of magnetic field generation and transport in stars, in: *Meridional flow, differential rotation, solar and stellar activity*, 5th Potsdam Thinkshop (Astrophysikalisches Institut Potsdam), June 24-29, 2007 (talk)
- Storage of magnetic flux in the solar convective overshoot region, in: *12th European Solar Physics Meeting, Freiburg im Breisgau, Germany*, 8-12 September 2008 (poster)

Summer schools attended

- 23rd International School for Young Astronomers of the International Astronomical Union (IAU), 4-23 July 1997, Zanjan, Iran
- 7th Vatican Observatory Summer School: “*Observational and theoretical understanding in single stars and close binary systems*”, 13 June - 10 July 1999, Castel Gandolfo, Italy

Memberships

Turkish Astronomical Society

Languages

Turkish (native), English (fluent), German (medium level), French and Italian (basic reading/listening)

General interests

Physics, mathematics, life sciences, astronomy, logic, history and sociology, literature, classical guitar, Anatolia, Turkish language, basketball, windsurfing, mountains, . . .