

CURRICULUM VITAE

Name: **ADA ORTIZ CARBONELL**
Date of Birth: January 7, 1975 in Granollers (Spain)
Present address: Departament d'Astronomia i Meteorologia
Universitat de Barcelona
Facultat de Física, planta 7
Martí i Franquès 1
E-08028 Barcelona, Spain
e-mail: aortiz@am.ub.es Tel. +34 93 4039234

EDUCATION

- **BSc in Physics.** Conferred: October 1997. University of Barcelona, Spain.
- **Diploma d'Estudis Avançats (DEA) in Astronomy (Diploma of Research)** Conferred: September 2000. University of Barcelona, Spain.
- **Ph. D. in Physics.** Conferred: October 2003. University of Barcelona, Spain.
Thesis: "Solar irradiance variations induced by faculae and small magnetic elements in the photosphere".
Supervisors: Dr. Vicente Domingo & Dr. Blai Sanahuja. Qualification: *Cum Laude* with distinction.

PROFESSIONAL EXPERIENCE

- **Postdoctoral researcher** (Dept. of Astronomy and Meteorology, U. Barcelona, Spain)
November 2006 -
- **Postdoctoral Fellow** (High Altitude Observatory, National Center for Atmospheric Research, Boulder, CO, USA)
October 2004 - September 2006
- **Graduate teaching assistant** (Dept. of Astronomy and Meteorology, U. Barcelona, Spain)
September 2001 - January 2003
 - Programming and Numerical Techniques
 - Astronomy: the History of Universe

FELLOWSHIPS

- Advanced Study Program/National Center for Atmospheric Research, Postdoctoral Research Fellowship awarded: October 2004 - September 2006.
- Contract from PNAA/MCyT (Ministerio de Ciencia y Tecnología, Spain) to work under the project "Protons, interplanetary shocks and solar variability: applications to Space Weather. Participation in ESA space projects". February 2003 - November 2003.

- Pre-doctoral Fellowship from Generalitat de Catalunya (Catalan Government). January 2001 - December 2002.
- ESA (European Space Agency) Fellowship to work under the project “An Engineering Model for Solar Energetic Particles in Interplanetary Space”. February 2000 - December 2000 and December 2003 - March 2004

SCHOLARSHIPS

- Scholarships from the University of Barcelona to attend conferences and meetings. Five consecutive years from 1998 to 2002, 2004 and 2007.
- Scholarship from Generalitat de Catalunya (Catalan Government) to work in the Space Science Department of ESA (Netherlands), 1 month. April 1999.
- Scholarship from Generalitat de Catalunya (Catalan Government) to work in the Institute of Astronomy of the ETHZ (Switzerland), 1 month. May 2000.
- Scholarship from the European Union to attend the First SOLSPA Euroconference held in Tenerife (Spain). September 2000.
- Scholarship from the Committee on Space Research (COSPAR) to attend the 35th COSPAR Scientific Assembly held in Paris (France). July 2004.
- Scholarship from OAR (Osservatorio Astronomico di Roma)-University of Rome “*Tor Vergata*” to attend the Solar Variability and Earth Climate meeting held in Rome (Italy). June 2005.

INVOLVEMENT IN RESEARCH PROJECTS

- Project Title: An Engineering Model for Solar Energetic Particles in Interplanetary Space. I, II and III
Sponsoring Agency: European Space Agency (ESA)
PI: Dr. B. Sanahuja (University of Barcelona)
Period of performance and Budget: February 2000 - September 2003, 74 kEuros.
- Project Title: Protons, interplanetary shocks and solar variability: applications to Space Weather. Participation in ESA space projects.
Sponsoring Agency: Ministerio de Ciencia y Tecnología (PNAA Program), Spain
PI: Dr. B. Sanahuja (University of Barcelona)
Period of performance and Budget: January 2002 - December 2004, 125 kEuros
- Project Title: Energetic particles in the interplanetary medium. Space Weather. Solar Variability.
Sponsoring Agency: Ministerio de Ciencia y Tecnología (PNAA Program), Spain
PI: Dr. B. Sanahuja (University of Barcelona)
Period of performance and Budget: January 2005 - December 2007, 195 kEuros
- Project Title: Solar energetic particles, models and data analysis. Solpenco2.
Sponsoring Agency: Ministerio de Ciencia y Tecnología (PNAA Program), Spain
PI: Dr. B. Sanahuja (University of Barcelona)
Period of performance and Budget: Under review

STAGES & RESEARCH VISITS

- Goddard Space Flight Center/NASA, Maryland (USA). March 1998.
- Space Science Department of ESTEC/ESA, Noordwijk (The Netherlands). September 1998, November 1998 & April 1999.
- Institute of Astronomy/ETHZ, Zurich (Switzerland). August 1999 & May 2000.
- Max-Planck-Institut für Aeronomie, Katlenburg-Lindau (Germany). January 2002.
- Osservatorio Astronomico di Roma, Rome (Italy). December 2005 & September 2007.

PROFESSIONAL SERVICE

- Referee for The Astrophysical Journal
- Member of the Local Organizing Committee, Barcelona Workshop on Interplanetary Shock-Particle Propagation, 2003.
- Co-organizer, ASP/NCAR Research Review Seminar Series, 2005-2006.

PROFESSIONAL MEMBERSHIP

- American Geophysical Union

CONFERENCES & PRESENTATIONS IN MEETINGS

- *How good is the CaIIK as a proxy for the magnetic flux?*
A. Ortiz, M. Rast
 Solar Variability and Earth Climate Conference, (June 2005, Monte Porzio Catone, Rome, Italy). Poster.
- *Role of weak magnetic fields in irradiance changes.*
A. Ortiz
 35th COSPAR Scientific Assembly, (July 2004, Paris, France). Invited review.
- *Contribution of the small photospheric magnetic elements to the long-term solar irradiance*
A. Ortiz, V. Domingo, B. Sanahuja
 ISCS 2003 Symposium on “Solar Variability as an Input to the Earth’s Environment”, (June 2003, Tatranska Lomnica, Slovakia). Oral.
- *Contribution of the photospheric magnetic network to the solar cycle irradiance variability*
A. Ortiz, V. Domingo, B. Sanahuja
 5th Scientific meeting of the Spanish Astronomical Society, (September 2002, Toledo, Spain). Poster.
- *Variation of the facular and network contrast during the rising phase of cycle 23*
A. Ortiz, V. Domingo, B. Sanahuja, S.K. Solanki
 SOHO 11 Symposium “From Solar Min to Max: Half a Solar Cycle with SOHO”, (March 2002, Davos, Switzerland). Oral.

- *Modelling solar irradiance variations: Separate models for the network and active region faculae*
T. Wenzler, S.K. Solanki, D. M. Fluri, C. Frutiger, M. Fligge, **A. Ortiz**
SOHO 11 Symposium “From Solar Min to Max: Half a Solar Cycle with SOHO”, (March 2002, Davos, Switzerland). Poster.
- *Intensity distribution of small magnetic features from solar minimum to solar maximum*
A. Ortiz, V. Domingo, B. Sanahuja, S.K. Solanki, M. Fligge
ISCS 2001 Symposium on “Solar Variability, Climate and Space Weather”, (June 2001, Longmont, CO, USA). Poster.
- *On the contrast of faculae and small magnetic features*
A. Ortiz, S.K. Solanki, M. Fligge, V. Domingo, B. Sanahuja
1st Solar and Space Weather Euroconference “The Solar Cycle & Terrestrial Climate”, (September 2000, Tenerife, Spain). Poster.
- *An example of isolated active region energy evolution: NOAA AR 7978*
A. Ortiz, V. Domingo, B. Sanahuja, L. Sánchez
1st Solar and Space Weather Euroconference “The Solar Cycle & Terrestrial Climate”, (September 2000, Tenerife, Spain). Poster.
- *Excess energy emission by active regions*
A. Ortiz, V. Domingo, B. Sanahuja, T. Appourchaux, L. Sánchez, C. Fröhlich, T. Hoeksema
IUGG’99 International Union of Geodesy and Geophysics, (July 1999, Birmingham, UK). Poster.
- *Solar irradiance variations induced by active regions*
V. Domingo, **A. Ortiz**, T. Appourchaux, L. Sánchez, C. Fröhlich, T. Hoeksema, B. Sanahuja
American Geophysical Union 1998 Fall Meeting, (December 1998, San Francisco, USA). Poster.

EDUCATION & PUBLIC OUTREACH

- Participation in the Open Doors Days of the Physics Faculty (University of Barcelona), 1999-2002 and 2004.
- Collaboration in the organization of the Sun-Earth Days at the Imax Theater in Barcelona, April 2001 (celebrated simultaneously in several cities around the world).

SKILLS

- Operating Systems: UNIX, Linux, Windows
- Computing Languages: IDL, FORTRAN, html
- Text Processors (LaTeX)
- Languages:
 - Spanish, Catalan
 - English: fluent

Updated: April 23, 2007

PUBLICATIONS

Refereed journal articles

- *Latitudinal variation of the solar photospheric intensity*
A. Ortiz & M. Rast, submitted to *ApJ*
- *The intensity contrast of solar photospheric faculae and network elements. II. Evolution over the rising phase of solar cycle 23*
A. Ortiz, V. Domingo, B. Sanahuja
Astronomy & Astrophysics 452, 311-319 (2006).
- *Centre-to-limb variation of photospheric facular radiance and image resolution.*
V. Domingo, A. Ortiz, B. Sanahuja, I. Cabello
Advances in Space Research 35, 345-349 (2005).
- *Solar cycle evolution of the contrast of small photospheric magnetic elements.*
A. Ortiz
Advances in Space Research 35, 350-360 (2005).
- *Excess facular emission from an isolated active region during solar minimum: the example of NOAA AR 7978.*
A. Ortiz, V. Domingo, B. Sanahuja, C. Fröhlich
Journal of Atmospheric and Solar-Terrestrial Physics 66, 67-75 (2004).
- *On the intensity contrast of solar photospheric faculae and network elements.*
A. Ortiz, S.K. Solanki, V. Domingo, M. Fligge, B. Sanahuja
Astronomy & Astrophysics 388, 1036-1047 (2002).

Articles in preparation

- *The effect of spatial resolution and wavelength on the contrast of small photospheric magnetic elements*
A. Ortiz & M. Rast, to be submitted

Published Conference Proceedings

- *Indirect signatures for axion(-like) particles*
K. Zioutas, K. Dennerl, M. Grande, D. Hoffmann, J. Huovelin, B. Lakic, S. Orlando, A. Ortiz, Th. Papaevangelou, Y. Semertzidis, S. Tzamarias, O. Vilhu
Journal of Physics: Conference Series 39, 103-106 (2006).
- *How good is the CaIIK as a proxy for the magnetic flux?*
A. Ortiz, M. Rast
Memorie della Societa Astronomica Italiana 76, 1018-1021 (2005).
- *Contribution of the small photospheric magnetic elements to the long-term solar irradiance*
A. Ortiz, V. Domingo, B. Sanahuja
Proc. ISCS 2003 Symposium on "Solar Variability as an Input to the Earth's Environment", ESA SP-535, 43-46 (2003).

- *Contribution of the photospheric magnetic network to the solar cycle irradiance variability*
A. Ortiz, V. Domingo, B. Sanahuja
Highlights of Spanish Astrophysics III, Kluwer Academic Publishers, 497 (2003).
- *Variation of the facular and network contrast during the rising phase of cycle 23*
A. Ortiz, V. Domingo, B. Sanahuja, S.K. Solanki
Proc. SOHO 11 Symposium “From Solar Min to Max: Half a Solar Cycle with SOHO”, ESA SP-508, 185-188 (2002).
- *Modelling solar irradiance variations: Separate models for the network and active region faculae*
T. Wenzler, S.K. Solanki, D.M. Fluri, C. Frutiger, M. Fligge, **A. Ortiz**
Proc. SOHO 11 Symposium “From Solar Min to Max: Half a Solar Cycle with SOHO”, ESA SP-508, 231-234 (2002).
- *On the contrast of faculae and small magnetic features*
A. Ortiz, S.K. Solanki, M. Fligge, V. Domingo, B. Sanahuja
Proc. 1st Solar and Space Weather Euroconference “The Solar Cycle & Terrestrial Climate”, ESA SP-463, 399-402 (2000).
- *An example of isolated active region energy evolution: NOAA 7978*
A. Ortiz, V. Domingo, B. Sanahuja, L. Sánchez
Proc. 1st Solar and Space Weather Euroconference “The Solar Cycle & Terrestrial Climate”, ESA SP-463, 395-398 (2000).

Other Articles

- *Solar irradiance variations induced by faculae and small magnetic elements in the photosphere*
A. Ortiz
Boletín de la Sociedad Española de Astronomía, 11, 45 (2004).
- *An engineering model for solar energetic particles in interplanetary space*
B. Sanahuja, A. Aran, V. Domingo, **A. Ortiz**, D. Lario
Final Report ESA/ESTEC Contract 14098/99/NL/NM (2001).