

CURRICULUM VITAE

VALENTÍN MARTÍNEZ PILLET

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1. PERSONAL DATA

Spanish Citizen, born in Alicante (Spain) on February 23, 1964. Native Spanish speaker, fluent in English.

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2. PROFESSIONAL PROFILE

- Solar physicists
- Principal Investigator of solar spectropolarimeters
- Consultant and advisor to national and international science bodies
- Comprehensive experience in grant and proposals review

3. EDUCATION

- Ph.D. in Astrophysics at the University of La Laguna (*Summa Cum Laude*).
Title: *Relation between fundamental parameters of Sunspots*, Ph. D. advisor
Dr. Manuel Vazquez Abeledo, 1992.
- Graduate in Astrophysics University of La Laguna, 1987.
- Bachelor of Science University of Valencia, 1985.

4. PROFESSIONAL POSITIONS

- Project Coordinator at the Instituto de Astrofísica de Canarias, 2000.
- Senior scientist at the Instituto de Astrofísica de Canarias, 1996 to 2000.
- Professor at the University of La Laguna, 1995.
- Postdoctoral Researcher at the High Altitude Observatory-NCAR (Boulder, Colorado), 1993 to 1994.
- Associated Professor at the University of La Laguna, 1991 to 1992.
- Ph. D. student at the Instituto de Astrofísica de Canarias, 1988 to 1990.

5. PROJECTS AS PRINCIPAL INVESTIGATOR

- 2007-present: Co-Principal Investigator of SO/PHI (Solar Orbiter Polarimetric and Helioseismic Imager) for the ESA/NASA Solar Orbiter mission. (Prof. Sami Solanki Principal Investigator.) Funded by the Spanish Space Sciences funding agency (PNE). Participating institutions: IAC, IAA (Granada), INTA (Madrid), GACE (Valencia) and IDR (UPM, Madrid), University of Barcelona, Institute D'Astrophysique Spatiales (Paris, France), Kiepenheuer Institut für Sonnenphysik (Freiburg, Germany) Institute for Solar Physics (Stockholm, Sweden) and Institutt for Teoretisk Astrofysikk University of Oslo (Oslo, Norway).

Amount funded: 11 M€ (expected total by 2017: 17 M€).

- 2003-present: Principal Investigator of the Imaging Magnetograph eXperiment (IMaX). Funded by the Spanish PNE with 4 projects over a period of 7 years. Participating institutions: IAC, Instituto de Astrofísica de Andalucía (IAA, Granada), Instituto Nacional de Técnica Aeroespacial (INTA, Madrid), Grupo de Astronomía y Ciencias del Espacio (GACE, University of Valencia) and Instituto Ignacio Da-Riva (IDR, Aeronautical School, Madrid Polytechnic).

Amount funded: 4.5 M€.

- 2001-02: Development of Liquid-Crystal Based Optical Retarders. Funded by the Centre for Technological and Industrial Development (CDTI). Participating institutions: IAC and TECDIS Display Ibérica (Valladolid, Spain).

Amount funded: 110 k€.

6. NATIONAL & INTERNATIONAL ADVISORY BODIES

- President of the Division II of the International Astronomical Union (IAU) “The Sun & the Heliosphere”: 2010-2012.
- Member of the Science Working Team of the ESA/NASA Solar Orbiter mission: 2009-present. (Chairman of the Solar Orbiter Remote Sensing Working Group.)
- Co-Investigator of the SUNRISE project led by the Max-Planck für Sonnensystemforschung (MPS, Lindau, Germany): 2004-present.
- Member of the Editorial Board of the Journal Solar Physics: 2004-present.
- Member of the High Altitude Observatory Scientific Advisory Board 1997-2011.
- Member of the Spanish Comisión Nacional de Astronomía (advising the Spanish Science Minister): 2006-2010.
- Member of the Spanish Comisión Ramón y Cajal (Tenure-track positions Review Board): 2005, 2010.
- President of the Commission 12 of the IAU “Solar Radiation and Structure”: 2007-2009.
- Member of the Review Board of the Spanish Programa Nacional del Espacio (PNE, Space Sciences funding agency): 2004, 2007-2008.
- Member of the Review Board of the Spanish Programa Nacional de Astronomía y Astrofísica (Astronomy & Astrophysics funding agency): 2004.
- Member of the Payload Working Group of the ESA Solar Orbiter mission: 2002-2006.
- Member of the Solar System Working Group of the ESA Science advisory structure: 2000-2003.
- Member of the Advanced Technology Solar Telescope Science Working Group of the National Solar Observatory (USA): 2002-2003.

7. SUMMARY OF PUBLICATIONS

- 186 entries in the NASA/ADS, with 2555 citations (H-index 28)
- 92 papers in refereed journals (*Nature*, *Astrophysical Journal*, *Astronomy & Astrophysics*, *Solar Physics*, *Experimental Astronomy*, *Astrophysics and Space Science*, *Applied Optics*, *Advances in Space Research*, *Astronomische Nachrichten*, *New Astronomy Reviews*).

- 19 Invited Talks
- 71 Oral and Poster contributions

8. Ph.D. ADVISOR

- Carlos Quintero (on-going): “The physics of Quiet Sun jets”.
- Dr. Christoph Kuckein (2012): “Active Region filaments observed in the Photosphere and Chromosphere”. Currently at the Leibniz Institute for Astrophysics Potsdam (AIP, Germany).
- Dr. Santiago Vargas (2008): “Estudio de flujos horizontales en regiones solares activas basado en técnicas de alta resolución” (‘Study of horizontal flows in solar active solar based on high-resolution techniques’). Currently at *Universidad de los Andes* (Bogotá, Colombia).
- Dr. Alberto Sainz Dalda (2009): “Evolución de Regiones Activas solares” (‘Evolution of solar active regions’). Currently at *Lockheed-Martin Solar and Astrophysics Laboratory* (Palo Alto, California).

9. BOOKS (Editor)

- V. Martínez Pillet & F. Sánchez, eds. (2005), *Payload and Mission Definition in Space Sciences*, Proceedings of the XV Canary Islands Winter School of Astrophysics (Cambridge: Cambridge University Press). ISBN 052185802X.
- B. Battrick & H. Sawaya-Lacoste, E. Marsch, V. Martínez Pillet, B. Fleck & R. Marsden, eds. (2001), *Solar Encounter*, Proceedings of the First Solar Orbiter Workshop (Noordwijk: ESA SP-493). ISBN 92-9092-803-4.

10. CONFERENCE ORGANIZING COMMITTEES

- “Nature of prominences and their role in space weather”. SOC member. 10-16 June, 2013, Paris, France
- “Comparative magnetic minima: characterizing quiet times in the Sun and stars”. SOC member. 3-7 October, 2011, Mendoza, Argentina
- “The Second Solar Orbiter Workshop”. SOC member. 16-20 October, 2006, Athens, Greece.
- “Payload and Mission definition in space sciences. XV Canary Island Winter School”. SOC Chair. 17-28 November, 2003, Tenerife, Spain
- “Solar terrestrial magnetic activity and space environment”. SOC member. 10-12 September, 2001, Beijing, China

- “Solar encounter: The first Solar Orbiter Workshop”. SOC co-Chair. 14-18 May, 2001, Tenerife, Spain
- “The Solar Cycle and Terrestrial Climate”. SOC member. 25-29 September, 2000 Tenerife, Spain
- “Advanced Solar Polarimetry: Theory, Observation and Instrumentation”. SOC member. 11-15 September, 2000, Sunspot (NM), USA
- “Advances in the physics of sunspots”. SOC member. 2-6 October, 1996, Tenerife, Spain

11. AFFILIATIONS

- Member of the International Astronomical Union (IAU)
- Member of Committee on Space Research (COSPAR)
- Member of the Sociedad Española de Astronomía (SEA)

12. TEACHING EXPERIENCE

- Astronomical Optics (University of La Laguna), courses 1991/92 and 1992/93. 60 hours per course
- General Physics (University of La Laguna), course 1995/96. 60 hours per course.
- Master course on “Tecnología Espacial” (Universidad Politécnica Madrid), course 2009. 3 hours per course.
- Summer school, “Estudio y exploración del espacio” (Universidad Politécnica de Madrid), courses, 2006/12. 2 hours per course.

13. PUBLIC OUTREACH (Talks & Articles)

- Facultad de Ciencias de la Empresa (Cartagena). May 11, 2012
- Fundación March (Madrid). November 17, 2011
<http://www.march.es/conferencias/anteriores/voz.aspx?id=2809> (in Spanish)
- Campus Party (Valencia). July 15, 2011
<http://www.youtube.com/watch?v=hiaNSLTcQgM> (in Spanish)
- Museo de la Ciencia (Tenerife). November, 16 2010
- Club Información (Alicante). March, 5, 2010.
- TEDx Canarias talk (Tenerife). March 1, 2010
<http://www.youtube.com/watch?v=cCxuAC4pTes> (in Spanish)

- “De Canarias a la Antártida: Magnetismo solar a alta resolución”, V. Martínez Pillet y el equipo IMAx. *Astronomia Magazine* 82, April, 2006, 28-37.

14. AWARDS

VIP Prize June 2009 of the newspaper *Información de Alicante*.

15. LIST OF PUBLICATIONS IN REFEREED JOURNALS

1. Martínez González, M. J.; Bellot Rubio, L. R.; Solanki, S. K.; Martínez Pillet, V.; Del Toro Iniesta, J. C.; Barthol, P.; Schmidt, W. “Resolving the internal magnetic structure of the solar network”, *The Astrophysical Journal Letters*, in press, 2012
2. del Toro Iniesta, J. C.; Martínez Pillet, V. “Assessing the Behavior of Modern Solar Magnetographs and Spectropolarimeters”, *The Astrophysical Journal Supplement Series*, 201, 22, 2012.
3. Uribe-Patarroyo, N., Alvarez-Herrero, A., Martínez Pillet, V. “Pre-flight calibration of the Imaging Magnetograph eXperiment polarization modulation package based on liquid-crystal variable retarders”. *Applied Optics*, 51, 21, 4954, 2012.
4. Kuckein, C.; Martínez Pillet, V.; Centeno, R. “An active region filament studied simultaneously in the chromosphere and photosphere. II. Doppler velocities”, *Astron. & Astrop.*, 542, 112, 2012.
5. Yelles Chaouche, L.; Kuckein, C.; Martínez Pillet, V.; Moreno-Insertis, F. “The Three-dimensional Structure of an Active Region Filament as Extrapolated from Photospheric and Chromospheric Observations.” *The Astrophysical Journal*, Volume 748, Issue 1, 23, 2012
6. Kuckein, C.; Martínez Pillet, V.; Centeno, R. “An active region filament studied simultaneously in the chromosphere and photosphere. I. Magnetic structure.” *Astronomy & Astrophysics*, Volume 539, 131, 2012
7. Asensio Ramos, A.; Martínez González, M. J.; Khomenko, E.; Martínez Pillet, V. “Influence of phase-diversity image reconstruction techniques on circular polarization asymmetries.” *Astronomy & Astrophysics*, Volume 539, 42, 2012
8. Guglielmino, S. L.; Martínez Pillet, V.; Bonet, J. A.; del Toro Iniesta, J. Carlos; Bellot Rubio, L. R.; Solanki, S. K.; Schmidt, W.; Gandorfer, A.; Barthol, P.; Knölker, M. “The Frontier between Small-scale Bipoles and Ephemeral Regions in the Solar Photosphere: Emergence and Decay of an Intermediate-scale Bipole Observed with SUNRISE/IMAx”. *The Astrophysical Journal*, Volume 745, Issue 2, 160, 2012
9. Peter, Hardi; Abbo, L.; Andretta, V.; Auchère, F.; Bemporad, A.; Berrilli, F.; Bommier, V.; Braukhane, A.; Casini, R.; Curdt, W.; and 29 coauthors (including V. Martínez Pillet). “Solar magnetism eXplorer (SolmeX). Exploring the magnetic field in the upper atmosphere of our closest star.” *Experimental Astronomy*, Volume 33, Issue 2-3, 271-303, 2012

10. Matthews, Sarah A.; Williams, David R.; Klein, Karl-Ludwig; Kontar, Eduard P.; Smith, David M.; Lagg, Andreas; Krucker, Sam; Hurford, Gordon J.; Vilmer, Nicole; MacKinnon, Alexander L.; and 21 coauthors (including V. Martínez Pillet). "Solar Particle Acceleration Radiation and Kinetics (SPARK). A mission to understand the nature of particle acceleration." *Experimental Astronomy*, Volume 33, Issue 2-3, 237-269, 2012
11. Palacios, J.; Blanco Rodríguez, J.; Vargas Domínguez, S.; Domingo, V.; Martínez Pillet, V.; Bonet, J. A.; Bellot Rubio, L. R.; Del Toro Iniesta, J. C.; Solanki, S. K.; Barthol, P.; and 4 coauthors. "Magnetic field emergence in mesogranular-sized exploding granules observed with sunrise/IMaX data." *Astronomy & Astrophysics*, Volume 537, 21, 2012
12. Teriaca, Luca; Andretta, Vincenzo; Auchère, Frédéric; Brown, Charles M.; Buchlin, Eric; Cauzzi, Gianna; Culhane, J. Len; Curdt, Werner; Davila, Joseph M.; Del Zanna, Giulio; and 32 coauthors (including V. Martínez Pillet). "LEMUR: Large European module for solar Ultraviolet Research". *Experimental Astronomy*, Online First Dec 2011
13. Martínez Pillet, V.; Del Toro Iniesta, J. C.; Quintero Noda, C. "Ubiquitous quiet-Sun jets". *Astronomy & Astrophysics*, Volume 530, 111, 2011
14. Martínez González, M. J.; Asensio Ramos, A.; Manso Sainz, R.; Khomenko, E.; Martínez Pillet, V.; Solanki, S. K.; López Ariste, A.; Schmidt, W.; Barthol, P.; Gandorfer, A. "Unnoticed Magnetic Field Oscillations in the Very Quiet Sun Revealed by SUNRISE/IMaX". *The Astrophysical Journal Letters*, Volume 730, Issue 2, L37, 2011.
15. Yelles Chaouche, L.; Moreno-Insertis, F.; Martínez Pillet, V.; Wiegmann, T.; Bonet, J. A.; Knölker, M.; Bellot Rubio, L. R.; del Toro Iniesta, J. C.; Barthol, P.; Gandorfer, A.; and 2 coauthors. "Mesogranulation and the Solar Surface Magnetic Field Distribution". *The Astrophysical Journal Letters*, Volume 727, Issue 2, L30, 2011.
16. Berkefeld, T.; Schmidt, W.; Soltau, D.; Bell, A.; Doerr, H. P.; Feger, B.; Friedlein, R.; Gerber, K.; Heidecke, F.; Kentischer, T.; and 14 coauthors (including V. Martínez Pillet). "The Wave-Front Correction System for the Sunrise Balloon-Borne Solar Observatory." *Solar Physics*, Volume 268, Issue 1, 103-123, 2011
17. Martínez Pillet, V.; Del Toro Iniesta, J. C.; Álvarez-Herrero, A.; Domingo, V.; Bonet, J. A.; González Fernández, L.; López Jiménez, A.; Pastor, C.; Gasent Blesa, J. L.; Mellado, P.; and 32 coauthors. "The Imaging Magnetograph eXperiment (IMaX) for the Sunrise Balloon-Borne Solar Observatory". *Solar Physics*, Volume 268, Issue 1, 57-102, 2011
18. Gandorfer, A.; Grauf, B.; Barthol, P.; Riethmüller, T. L.; Solanki, S. K.; Chares, B.; Deutsch, W.; Ebert, S.; Feller, A.; Germerott, D.; and 22 coauthors (including V. Martínez Pillet). "The Filter Imager SuFI and the Image Stabilization and Light Distribution System ISLiD of the Sunrise Balloon-Borne Observatory: Instrument Description". *Solar Physics*, Volume 268, Issue 1, 35-55, 2011
19. Barthol, P.; Gandorfer, A.; Solanki, S. K.; Schüssler, M.; Chares, B.; Curdt, W.; Deutsch, W.; Feller, A.; Germerott, D.; Grauf, B.; and 35 coauthors (including

- V. Martínez Pillet). "The Sunrise Mission". *Solar Physics*, Volume 268, Issue 1, 1-34, 2011
20. Gandorfer, Achim; Solanki, Sami K.; Woch, Joachim; Martínez Pillet, Valentin; Álvarez Herrero, Alberto; Appourchaux, Thierry. "The Solar Orbiter Mission and its Polarimetric and Helioseismic Imager (SO/PHI)". *Journal of Physics: Conference Series*, Volume 271, Issue 1, pp. 12-86, 2011.
 21. Wiegmann, T.; Solanki, S. K.; Borrero, J. M.; Martínez Pillet, V.; del Toro Iniesta, J. C.; Domingo, V.; Bonet, J. A.; Barthol, P.; Gandorfer, A.; Knölker, M.; and 2 coauthors. "Magnetic Loops in the Quiet Sun". *The Astrophysical Journal Letters*, Volume 723, Issue 2, L185-L189, 2010
 22. Steiner, O.; Franz, M.; Bello González, N.; Nutto, Ch.; Rezaei, R.; Martínez Pillet, V.; Bonet Navarro, J. A.; del Toro Iniesta, J. C.; Domingo, V.; Solanki, S. K.; and 4 coauthors. "Detection of Vortex Tubes in Solar Granulation from Observations with SUNRISE." *The Astrophysical Journal Letters*, Volume 723, Issue 2, L180-L184, 2010
 23. Roth, M.; Franz, M.; Bello González, N.; Martínez Pillet, V.; Bonet, J. A.; Gandorfer, A.; Barthol, P.; Solanki, S. K.; Berkefeld, T.; Schmidt, W.; and 3 coauthors. "Surface Waves in Solar Granulation Observed with SUNRISE". *The Astrophysical Journal Letters*, Volume 723, Issue 2, L175-L179, 2010.
 24. Riethmüller, T. L.; Solanki, S. K.; Martínez Pillet, V.; Hirzberger, J.; Feller, A.; Bonet, J. A.; Bello González, N.; Franz, M.; Schüssler, M.; Barthol, P.; and 6 coauthors. "Bright Points in the Quiet Sun as Observed in the Visible and Near-UV by the Balloon-borne Observatory SUNRISE". *The Astrophysical Journal Letters*, Volume 723, Issue 2, L169-L174, 2010.
 25. Lagg, A.; Solanki, S. K.; Riethmüller, T. L.; Martínez Pillet, V.; Schüssler, M.; Hirzberger, J.; Feller, A.; Borrero, J. M.; Schmidt, W.; del Toro Iniesta, J. C.; and 7 coauthors. "Fully Resolved Quiet-Sun Magnetic flux Tube Observed with the SUNRISE/IMAX Instrument." *The Astrophysical Journal Letters*, Volume 723, Issue 2, L164-L168, 2010.
 26. Khomenko, E.; Martínez Pillet, V.; Solanki, S. K.; del Toro Iniesta, J. C.; Gandorfer, A.; Bonet, J. A.; Domingo, V.; Schmidt, W.; Barthol, P.; Knölker, M. "Where the Granular Flows Bend." *The Astrophysical Journal Letters*, Volume 723, Issue 2, L159-L163, 2010.
 27. Hirzberger, J.; Feller, A.; Riethmüller, T. L.; Schüssler, M.; Borrero, J. M.; Afram, N.; Unruh, Y. C.; Berdyugina, S. V.; Gandorfer, A.; Solanki, S. K.; and 7 coauthors (including V. Martínez Pillet). "Quiet-sun Intensity Contrasts in the Near-ultraviolet as Measured from SUNRISE". *The Astrophysical Journal Letters*, Volume 723, Issue 2, L154-L158, 2010.
 28. Danilovic, S.; Beeck, B.; Pietarila, A.; Schüssler, M.; Solanki, S. K.; Martínez Pillet, V.; Bonet, J. A.; del Toro Iniesta, J. C.; Domingo, V.; Barthol, P.; and 5 coauthors. *The Astrophysical Journal Letters*, Volume 723, Issue 2, L149-L153, 2010.
 29. Borrero, J. M.; Martínez-Pillet, V.; Schlichenmaier, R.; Solanki, S. K.; Bonet, J. A.; del Toro Iniesta, J. C.; Schmidt, W.; Barthol, P.; Gandorfer, A.; Domingo, V.; and 1 coauthors. "Supersonic Magnetic Upflows in Granular Cells Observed with SUNRISE/IMAX". *The Astrophysical Journal Letters*, Volume 723, Issue 2, L144-L148, 2010.

30. Bonet, J. A.; Márquez, I.; Sánchez Almeida, J.; Palacios, J.; Martínez Pillet, V.; Solanki, S. K.; del Toro Iniesta, J. C.; Domingo, V.; Berkefeld, T.; Schmidt, W.; and 3 coauthors. "SUNRISE/IMaX Observations of Convectively Driven Vortex Flows in the Sun". *The Astrophysical Journal Letters*, Volume 723, Issue 2, L139-L143, 2010.
31. Bello González, N.; Franz, M.; Martínez Pillet, V.; Bonet, J. A.; Solanki, S. K.; del Toro Iniesta, J. C.; Schmidt, W.; Gandorfer, A.; Domingo, V.; Barthol, P.; and 2 coauthors. "Detection of Large Acoustic Energy Flux in the Solar Atmosphere". *The Astrophysical Journal Letters*, Volume 723, Issue 2, L134-L138, 2010.
32. Solanki, S. K.; Barthol, P.; Danilovic, S.; Feller, A.; Gandorfer, A.; Hirzberger, J.; Riethmüller, T. L.; Schüssler, M.; Bonet, J. A.; Martínez Pillet, V.; and 9 coauthors. "SUNRISE: Instrument, Mission, Data, and First Results". *The Astrophysical Journal Letters*, Volume 723, Issue 2, L127-L133, 2010.
33. Orozco Suárez, D.; Bellot Rubio, L. R.; Martínez Pillet, V.; Bonet, J. A.; Vargas Domínguez, S.; Del Toro Iniesta, J. C., "Retrieval of solar magnetic fields from high-spatial resolution filtergraph data: the Imaging Magnetograph eXperiment (IMaX)". *Astronomy and Astrophysics*, Volume 522, 101, 2010.
34. Puschmann, K. G.; Ruiz Cobo, B.; Martínez Pillet, V. "The Electrical Current Density Vector in the Inner Penumbra of a Sunspot". *The Astrophysical Journal Letters*, Volume 721, Issue 1, L58-L61, 2010.
35. Puschmann, K. G.; Ruiz Cobo, B.; Martínez Pillet, V. "A Geometrical Height Scale for Sunspot Penumbrae". *The Astrophysical Journal*, Volume 720, Issue 2, 1417-1431, 2010.
36. Schmidt, W.; Solanki, S. K.; Barthol, P.; Berkefeld, T.; Gandorfer, A.; Knölker, M.; Martínez Pillet, V.; Schüssler, M.; Title, A. "SUNRISE Impressions from a successful science flight". *Astronomische Nachrichten*, Vol.331, Issue 6, 601, 2010.
37. Vargas Domínguez, S.; de Vicente, A.; Bonet, J. A.; Martínez Pillet, V. "Characterization of horizontal flows around solar pores from high-resolution time series of images". *Astronomy and Astrophysics*, Volume 516, 91, 2010.
38. Martínez Pillet, V.; Katsukawa, Y.; Puschmann, K. G.; Ruiz Cobo, B. "Supersonic Continuation of the Evershed Flow Outside a Sunspot as Observed with Hinode". *The Astrophysical Journal Letters*, Volume 701, Issue 2, L79-L82, 2009.
39. Kuckein, C.; Centeno, R.; Martínez Pillet, V.; Casini, R.; Manso Sainz, R.; Shimizu, T. "Magnetic field strength of active region filaments". *Astronomy and Astrophysics*, Volume 501, Issue 3, 2009, 1113-1121, 2009.
40. Appourchaux, T.; Liewer, P.; Watt, M.; Alexander, D.; Andretta, V.; Auchère, F.; D'Arrigo, P.; Ayon, J.; Corbard, T.; Fineschi, S.; and 27 coauthors (including V. Martínez Pillet). "POLAR investigation of the Sun—POLARIS". *Experimental Astronomy*, Volume 23, Issue 3, pp.1079-1117, 2009.
41. Barthol, P.; Gandorfer, A. M.; Solanki, S. K.; Knölker, M.; Martínez Pillet, V.; Schmidt, W.; Title, A. M.; SUNRISE Team. "SUNRISE: High resolution UV/VIS observations of the sun from the stratosphere". *Advances in Space Research*, Volume 42, Issue 1, 70-77, 2008.

42. Uribe-Patarroyo, N.; Alvarez-Herrero, A.; Heredero, R. L.; Del Toro Iniesta, J. C.; López Jiménez, A. C.; Domingo, V.; Gasent, J. L.; Jochum, L.; Martínez Pillet, V.; ImaX Team. "IMaX: a polarimeter based on Liquid Crystal Variable Retarders for an aerospace mission". *Physica Status Solidi (c)*, vol. 5, issue 5, 1041-1045, 2008.
43. Vargas Domínguez, S.; Rouppe van der Voort, L.; Bonet, J. A.; Martínez Pillet, V.; Van Noort, M.; Katsukawa, Y. "Moat Flow in the Vicinity of Sunspots for Various Penumbra Configurations". *The Astrophysical Journal*, Volume 679, Issue 1, 900-909, 2008.
44. Bellot Rubio, L. R.; Tritschler, A.; Martínez Pillet, V. "Spectropolarimetry of a Decaying Sunspot Penumbra". *The Astrophysical Journal*, Volume 676, Issue 1, 698-703, 2008.
45. Socas-Navarro, H.; Borrero, J. M.; Asensio Ramos, A.; Collados, M.; Domínguez Cerdeña, I.; Khomenko, E. V.; Martínez González, M. J.; Martínez Pillet, V.; Ruiz Cobo, B.; Sánchez Almeida, J. "Multiline Spectropolarimetry of the Quiet Sun at 5250 and 6302 Å". *The Astrophysical Journal*, Volume 674, Issue 1, 596-606, 2008.
46. Vargas Domínguez, S.; Bonet, J. A.; Martínez Pillet, V.; Katsukawa, Y.; Kitakoshi, Y.; Rouppe van der Voort, L. "On the Moat-Penumbra Relation". *The Astrophysical Journal*, Volume 660, Issue 2, L165-L168, 2007.
47. Mathew, S. K.; Martínez Pillet, V.; Solanki, S. K.; Krivova, N. A. "Properties of sunspots in cycle 23. I. Dependence of brightness on sunspot size and cycle phase". *Astronomy and Astrophysics*, Volume 465, Issue 1, April I 2007, 291-304, 2007.
48. Heredero, R. L.; Uribe-Patarroyo, N.; Belenguer, T.; Ramos, G.; Sánchez, A.; Reina, M.; Martínez Pillet, V.; Álvarez-Herrero, A. "Liquid-crystal variable retarders for aerospace polarimetry applications". *Applied Optics IP*, vol. 46, Issue 5, 689-698, 2007.
49. Jurčák, J.; Martínez Pillet, V.; Sobotka, M. "The magnetic canopy above light bridges". *Astronomy and Astrophysics*, Volume 453, Issue 3, 1079-1088, 2006.
50. Socas-Navarro, Hector; Martínez Pillet, Valentín; Elmore, David; Pietarila, Anna; Lites, Bruce W.; Manso Sainz, Rafael. "Spectro-Polarimetric Observations and Non-Lte Modeling of Ellerman Bombs". *Solar Physics*, Volume 235, Issue 1-2, 75-86, 2006.
51. Jurčák, J.; Sobotka, M.; Martínez Pillet, V., "The Canopy Structure above Light Bridges". *Central European Astrophysical Bulletin*, Vol. 30, 55-64, 2006.
52. Sainz Dalda, A.; Martínez Pillet, V. "Moving Magnetic Features as Prolongation of Penumbra Filaments". *The Astrophysical Journal*, Volume 632, Issue 2, 1176-1183, 2005.
53. Socas-Navarro, H.; Martínez Pillet, V.; Sobotka, M.; Vázquez, M. "The Thermal and Magnetic Structure of Umbral Dots from the Inversion of High-Resolution Full Stokes Observations". *The Astrophysical Journal*, Volume 614, Issue 1, 448-456, 2004.
54. Socas-Navarro, H.; Martínez Pillet, V.; Lites, B. W. "Magnetic Properties of the Solar Internetwork". *The Astrophysical Journal*, Volume 611, Issue 2, 1139-1148, 2004.

55. Martínez Pillet, V. "Decay of sunspots". *Astronomische Nachrichten*, vol. 323, no. 3/4, 342-348, 2002.
56. Schmidt, W.; Solanki, S. K.; Lites, B. W.; Title, A. M.; Martínez Pillet, V. "High-resolution solar polarimetry with Sunrise" *Astronomische Nachrichten*, vol. 322, no. 5/6, 363-366, 2001.
57. Martínez Pillet, V. "Spectral signature of uncombed penumbral magnetic fields. Reply". *Astronomy and Astrophysics*, v.369, 644-645, 2001.
58. Westendorp Plaza, C.; del Toro Iniesta, J. C.; Ruiz Cobo, B.; Martínez Pillet, V. "Optical Tomography of a Sunspot. III. Velocity Stratification and the Evershed Effect". *The Astrophysical Journal*, Volume 547, Issue 2, 1148-1158, 2001.
59. Westendorp Plaza, C.; del Toro Iniesta, J. C.; Ruiz Cobo, B.; Martínez Pillet, V.; Lites, B. W.; Skumanich, A. "Optical Tomography of a Sunspot. II. Vector Magnetic Field and Temperature Stratification". *The Astrophysical Journal*, Volume 547, Issue 2, 1130-1147, 2001.
60. Martínez Pillet, V. "Spectral signature of uncombed penumbral magnetic fields". *Astronomy and Astrophysics*, v.361, 734-742, 2000.
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