Guillaume AULANIER

Solar physicist at LPP and UiO

Policy officer for HPC at MESRE



G. Aulanier is an astronomer from Paris Observatory | PSL at the Laboratory for Plasma Physics (LPP), and professor II from the University of Oslo (UiO) at the Rosseland Centre for Solar Physics. He is also a policy officer for HPC at the French ministry of higher education, research and space (MESRE). He teaches hydrodynamics at the astrophysics master of Univ. PSL, and he formerly taught numerical projects at the plasma physics master of Sorbonne University. His research focuses on the solar origins of space weather. He is specialized in 3D numerical MHD simulations coupled with observations of solar eruptions, prominences, and magnetic reconnection in complex topologies. In this context, he is the original developer of the Observationally-driven High-order Magneto-hydrodynamics (OHM) code. He is the chief scientist of the Meudon spectroheliograph, and the coordinator of the national service for ground-based solar surveillance for space weather (S3ME). He is member of the science teams of several instruments onboard NASA's Solar Dynamics Observatory (SDO) and ESA's Solar Orbiter (SolO). He is also a regular contributor to several national and foreign funding agencies, either as a panelist or as an external reviewer. He has occupied several other appointments in the administration of research and education, in particular president of the national solar terrestrial program of CNRS/INSU, director of the department of education at Observatoire de Paris, deputy director of PSL's astrophysics graduate school, head of the Meudon solar group, and national manager for two European consortia.

• *Where to find me:*

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• *Scientific publications:*

150 peer-reviewed publications (according to *SciX-ADS*)

- more than 11k citations all together (*SciX-ADS*)
- publishing since 1996, for 31 years
- ORCID: 0000-0001-5810-1566

h-index = 58 (*SciX-ADS*), 61 (*ResearchGate*),
64 (*Google scholar*)

Bibliometric indices available on *SciX-ADS*

• *Employments & affiliations:*

2026-*present*	Ministry of education & research	Policy officer for HPC	*at* Delegation for digital and data
2021-*present*	Observatoire de Paris	Astronomer	*at* Lab. Plasma Phys. (Paris)
2021-*present*	Universitetet i Oslo	Professor	*at* ITA/RoCS (Oslo)
2021-2024	Ministry of education & research	Policy officer for HPC	*at* DGRI/SSRI/A7 (Paris)
2012-2021	Observatoire de Paris	Astronomer	*at* LESIA (Meudon)
2001-2012	Observatoire de Paris	Assistant astronomer	*at* LESIA (Meudon)
2000-2001	CNES	Postdoctoral contractor	*at* DASOP (Meudon)
1999-2000	George Mason university	VSNE & Research associate	*at* Naval Res. Lab (Washington)
1996-1998	Ministry of education & research	Research grant beneficiary	*at* DASOP (Meudon)
1996	CEA	MSc intern	*at* SAp (Saclay) & PTN (Bruyères)

• *Education & awards:*

2017	Order of academic palms	rank: knight	
2015	National order of merit	rank: knight	
2010	Habilitation *(HDR)*	Université Paris Diderot	attached to the doctoral school AAIF (ED 127)
1998	PhD *(Doctorat)*	Université Pierre & Marie Curie	prepared at Observatoire de Paris (Meudon)
1996	MSc *(DEA)*	Université Pierre & Marie Curie	attended at Inst. d'Astrophysique de Paris (IAP)
1994	BSc *(Licence)*	Université Denis Diderot	in fundamental physics

- ***Responsibilities:***

2026-*present*	Coordinator	Ground-based solar-surveillance national service	OP – OCA – OMP
2023-*présent*	Chief scientist	Meudon spectroheliograph & citizen science SOLAP	Observatoire de Paris
2019-2026	Deputy director	Astrophysics graduate program (AStroParis)	University PSL
2022-2024	Project manager	Characterizing mesocenters for HPC and HPDA	MESR / DGRI / SP-SIN
2019-2024	President	National Sun-Earth program (PNST)	CNRS / INSU
2013-2019	Director	Department of education (UFE) *[elected]*	Observatoire de Paris
2014	Chair	Selection committee for an assist. prof.	Observatoire de Paris
2007-2011	Node leader	Collaborating contract EST-DS	EU / FP7
2008-2010	Head of group	Solar physics group *[elected]*	LESIA
2007-2011	Node leader	Research & Training Network SOLAIRE	EU / FP6
2005-2008	Vice chair	Selection committee for assist. profs. *[elected]*	Observatoire de Paris

- ***Reviewing & expertise:***

Panel member :	NASA (USA, 2026, 2018), FWO (W&T8, Belgium, 2019-22), Academy of Finland (Space Science, 2021), PNST (France, 2020-2024, 2005-14), Doctoral school AAIF ED 127 (France, 2014-20), PhD track admission (PSL, France, 2022-25), PSL (Starting Grants, 2024-25), PSL (Student Initiatives, 2015-18), PSL (Pedagogical initiatives, 2015), Full Professor selection panels (Sorbonne Univ: 2024-25; UVSQ: 2024), Assist. Professor selection panels (Obs de Paris: 2014, 2005-08)
External reviewer:	NASA (USA, 2026, 2024, 2014), UKRI/STFC (UK, 2024, 2017-19), SNF (Switzerland, 2022), ERC (EU, 2021), FWF (Austria, 2018), FWO (Belgium, 2015), NSERC (Canada, 2012), ANR (France, 2011-2013), AXA (private foundation, 2008), NSF (USA, 2006)
Journal referee:	A&A, ApJ, ApJL, Annales Geo, Adv Space Res, JASTP, JGR, LRSP, MNRAS, Nature, Nature Astro, Nature Com, Nature Phys, PASJ, PEPS, PPCF, Science, Sol Phys

- ***Teaching:***

2020-*present*	M1 space sciences & technologies	Université PSL	Hydrodynamics
2025	Doctoral ITA workshop	Universitetet i Oslo	Magnetic reconnection
2019	M1 earth sciences & environment	Université PSL	CFD for geophysics
2016-2025	M2 physics of plasmas and fusion	SU - UPSaclay – IPParis	Numerical MHD projects
2011-2016	M2 environment and lab plasmas	UPSud, UPMC, UVSQ, X	Space plasmas - Numerical projects
2010	Defense professional course	Fedome	Solar space weather proxies
2006	Summer school space environment	ISSS	Magnetic field extrapolations
2004-2009	M2 astronomy & astrophysics	Observatoire de Paris	Solar MHD - CFD practical works
2002-2005	M1 fundamental physics	Université Paris Diderot	Numerical experiments in fluids

- ***Supervision:*** PhDs: 4 (+7 unofficial co-supervisions) – Postdocs: 7 – Master interns: 11 – Bachelor interns: 7 – Bachelor student projects: 14 – Tutoring school classes: 26

- ***Member of committees:***

2026-*présent*	EuroHPC governing board *[invited]*	EuroHPC-JU
2025-*présent*	College for research data	MESR / Open Science Com.
2024-2026	PSL board for the Paris-area Space Academy	Observatoire de Paris
2022-2025	Administrative council (CA) *[elected]*	Observatoire de Paris
2022-2025	Digital committee (CNO) & strategy working group	Observatoire de Paris
2015-2025	Academic senate (SA) *[elected]*	University PSL
2022-2024	Mesocenter national committee *[chair]*	MESR / SP-SIN

2021-2024	Strategic committee (CSD) for the Nançay radioastronomy station	Observatoire de Paris
2021-2024	Member of the digital infrastructures & services committee (SP-SIN)	MESR
2021-2024	Member of the board & evaluation, attribution, technical committees	GENCI
2021-2023	Expert from France at the EuroHPC governing board *[invited]*	EuroHPC-JU
2020-2024	Committee of specialists in astronomy & astrophysics (CSAA) *[invited]*	CNRS / INSU
2020-2024	Solar heliosphere magnetosphere thematic group (SHM) *[invited]*	CNES
2020-2024	Scientific council (CS) of the National Sun-Earth program (PNST) *[chair]*	CNRS / INSU
2018-2019	Research & graduate-education committee	University PSL
2015-2019	HPC & HPDA working group of CSAA	CNRS / INSU
2014-2021	Advisory editorial board *[elected]*	Solar Physics journal
2014-2019	Council of the doctoral school AAIF (ED 127)	Region IdF universities
2014-2015	Teaching roster (TdS) working group	Observatoire de Paris
2013-2019	Board of directors (directoire)	Observatoire de Paris
2013-2019	Council of of the department of education (UFE) *[chair]*	Observatoire de Paris
2013-2019	Scientific council (CS)	Observatoire de Paris
2013-2017	Education council	University PSL
2008-2010	Board of the European solar physics division (ESPD) *[elected]*	European Astro Society
2007-2019	Administrative council (CA) *[elected]*	Observatoire de Paris
2007-2010	Scientific council (CS)	Observatoire de Paris
2005-2014	Scientific council (CS) of the National Sun-Earth program (PNST)	CNRS / INSU
2005-2008	Selection committee (CSE) for teaching assist. & assist. profs. *[elected]*	Observatoire de Paris
2004-2010	Board of the plasma physics division *[elected]*	French Physics Society (SFP)

- ***Involvement in research infrastructures & consortiums:***

  - Currently Co-I of requests for CPU-time allocation by GENCI (Tier-1)
  - Formerly PI of requests for CPU-time allocation on MesoPSL (Tier-2)

  - Member of the design-study consortium (2008-11) and science team (2021-*present*) for the European Solar Telescope
  - PI and Co-I of several former observing campaigns with THEMIS (Tenerife)
  - Analyses of historical data, then chief scientist (2023-*present*) of the Meudon spectroheliograph

  - Science Co-I of the EUI and STIX instruments on Solar Orbiter (2011-*present*)
  - Member of the science team of the AIA instrument on SDO (2006-*present*)
  - Member of the modeling and data analysis working group (MADAWG) of Solar Orbiter (2015-2020)
  - Analyses of satellite data from Solar Orbiter (launched in 2020), Solar Dynamics Observatory (2010), and formerly from Hinode (2006), TRACE (1998), SoHO (1995), Yohkoh (1991)

  - Member of other research teams:

    Slow-rise phase of CMEs (ISSI, 2025-26); Solar eruptions (PHC China, 2024-25); Flux ropes (ISEE, 2023); Chromospheric surges (ISSI, 2021-2024); Flare reconnection (Czech Academy of Sciences, 2012-2020); CCT/ENV (CNES, France, 2016); Pre-eruptive flux ropes vs. sheared arcades (ISSI, 2015-16); Solar forum (ISSI, 2012); SOLAIRE (EU FP6, 2007-11); NLFFF (International, 2007-09); Prominences (ISSI, 2007-09); PROM team (US, 2000 & 2011)

  - Initiator of a MoU for graduate education & research between Observatoire de Paris & NJU (2023-*present*)

- ***Main scientific results:*** *(through local and international collaborations with colleagues & students)*

  - Major role in the development of the standard flare model in 3D – by integrating several physical and geometrical processes, consistent with ground-based and space-borne observations.
  - Conceptualization and characterization of slip-running reconnection – super-Alfvénic field-line slippage in finite-B reconnection, nonetheless behaving like classical reconnection on MHD time-scales, occurring notably along flare ribbons.
  - Validation of the torus instability for coronal mass ejections – from nonidealized magnetic flux ropes previously and gradually formed by photospheric flux cancellation.
  - Prediction and explanation of the drifting of CME footpoints – through characterizing the ar-rf reconnection geometry, also resulting for the deformation flare ribbon-hooks.
  - Estimation of the maximum energy of solar flares – up to ten times the largest flare of the 2003 Halloween storms, and presumably of the 1859 Carrington event as well.
  - Unveiling the magnetic dip geometry for prominence feet – and the development of the first model applied to observations, and its application to the hemispheric chirality.
  - Proposal of rarefaction waves as a driver of coronal outflows into the slow solar wind – from the periphery of active regions, and their association with radio noise storms.

- ***Refereed publications :***

148) Xing C., Cheng X., **Aulanier G.**, & Ding M., 2026, Science Advances, 12, eaed5294, Back reaction of the untwisting solar corona scars sunspots

147) Li T., Duan X., Hou Y., **Aulanier G.**, Zimovetz I.V., Zhang J., Lorincik J., Kashapova L., Zhang Y., et al., 2026, ApJ, 1006, 47, Unprecedent fast winking of solar flares triggered by bursty magnetic reconnection

146) Noraz Q., Carlsson M., & **Aulanier G.**, 2026, A&A, 710, A175, Chromosphere of the quiet Sun, II. Atmospheric response to small-scale flux emergence

145) Furuseth S.V. & **Aulanier G.**, 2026, A&A, 706, 350, Flux rope formation through flux cancellation of sheared coronal-arcades in a 3D convectively-driven MHD simulation

144) Joshi R., Rouppe van der Voort L., **Aulanier G.**, Danilovic S., Prasad A., Díaz Baso J. C., Nóbrega-Siverio D., Poirier N., & Calchetti D., 2026, A&A, 706, 369, Active chromospheric fibril singularity: coordinated observations from Solar Orbiter, SST, and IRIS

143) Sand M. O., Noraz Q., **Aulanier G.**, Martinez-Sykora J., Carlsson M., & Rouppe van der Voort L., 2026, A&A, 705, 205, Shock-induced magnetic reconnection driving Ellerman bomb emission and a spicule

142) Noraz Q., Carlsson M., & **Aulanier G.**, 2026, A&A, 705, 86, Chromosphere of the quiet Sun, I. Shock and current-sheet heating

141) Dudik J., **Aulanier G.**, Lorincik J., & Zemanova A., 2025, Sol Phys, 300, 10, Quasi-separatrix layers and three-dimensional magnetic reconnection: theory and observations of solar flares (Invited review)

140) Schmieder B., Guo J., **Aulanier G.**, Maharana A., & Poedts S., 2025, Sol Phys, 300, 9, Flare energetics, CME launch, and heliospheric propagation for the May 2024 events as derived from ensemble MHD modeling

139) Joshi R., Dudik J., Schmieder B., **Aulanier G.**, & Chandra R., 2025, A&A, 698, A301, Spectroscopic investigations of a filament reconnecting with coronal loops during a two-ribbon flare

138) Xing C., Cheng X., **Aulanier G.**, & Ding M., 2025, ApJ, 986, 37, Initiation Route of Coronal Mass Ejections: II. The role of filament mass

137) Faber J.T., Joshi R., Rouppe van der Voort L., Wedemeyer S., Fletcher L, **Aulanier G.**, & Nóbrega-Siverio D., 2025, A&A, 693, A8, High-resolution observational analysis of flare ribbon fine structures

136) Lorincik J., Dudik J., Sainz Dalda A., **Aulanier G.**, Polito V., & De Pontieu B., 2025, Nature Astronomy, 9, 45, *published online 18 oct 2024*, Discovery of super-Alfvenic slippage of reconnecting magnetic field lines on the Sun

135) Joshi R., Rouppe van der Voort L., Schmieder B., Moreno-Insertis F., Prasad A., **Aulanier G.**, & Nobrega Siverio D., 2024, A&A, 691, A198 , High-resolution observations of recurrent jets from an arch filament system

134) Joshi R., **Aulanier G.**, Radcliffe A., Rouppe van der Voort L., Pariat E., Nobrega Siverio D., & Schmieder B., 2024 A&A 687, A172, Generic low-atmosphere signatures of swirled-anemone jets

133) Xing C., **Aulanier G.**, Cheng X., Xia C. & Ding M., 2024 ApJ, 966, 70, Unveiling the initiation route of coronal mass ejections through their slow rise phase

132) Xing C., **Aulanier G.**, Schmieder B., Cheng X. & Ding M.D., 2024, A&A, 682, A3, Identifying footpoints of pre-eruptive and coronal mass ejection flux ropes with sunspot scars

131) Cheng X., Xing C., **Aulanier G.**, Peter H., Ding M.D. & Solanki S.K. 2023, ApJ Letters, 954, L47, Deciphering the initiation of a major coronal mass ejection

130) Prasad A., Kumar S., Sterling A. C., Moore R. L., **Aulanier G.**, Bhattacharyya R. and Hu Q., 2023, A&A, 677, A43, Formation of an observed eruptive flux rope above the torus instability threshold through tether-cutting magnetic reconnection

129) Antolin P., Dolliou A., Auchère F., Chitta L.P., Parenti S., Berghmans D., … **Aulanier G.**, … & *the EUI science team*, 2023, A&A, 676, A112, EUV fine structure and variability associated with coronal rain revealed by Solar Orbiter/EUI HRIEUV and SPICE

128) Berghmans D., Antolin P., Auchère F., Aznar R., Barczynski K., …, **Aulanier G.**, … & *the EUI science team*, 2023, A&A, 675, A110, First perhelion of EUI on the Solar Orbiter mission

127) Cheng X., Priest E.R., Li H.T., Chen J. **Aulanier G.**, Chitta L.P., Wang Y.L., Peter H., Zhu X.S., Xing C., Ding M.D., Solanki S.K., et al., 2023, Nature Communications, 14, 2107, Ultra-high-resolution observations of persistent null-point reconnection in the solar corona

126) Robinson R. **Aulanier G.**, and Carlsson M., 2023, A&A, 673, 79, Quiet Sun flux rope formation via incomplete Taylor relaxation

125) Robinson R., Carlsson M. and **Aulanier G.**, and 2022, A&A, 668, 177, From incoherent field to coherent reconnection: understanding convection-driven coronal heating in the quiet Sun.

124) Dudík J., **Aulanier G.**, Kasparova A., Karlicky M., Zemanova A., Lorincik J. and Druckmuller M., 2022**,** ApJ Letters, 937, L10, Filament Leg-Leg Reconnection as a Source of Prominent Supra-arcade Downflows

123) Quintero Noda C., Schlichenmaier R., Bellot Rubio L.R., Löfdahl M.G., Khomenko E., Jurcak J., Leenaarts J., Kuckein C., Gonzales Manrique S.J., Gunar S., Nelson C.J., de la Cruz Rodriguez J., Tziotziou K., Tsiropoula G., **Aulanier G.**, & *the EST team*, 2022, A&A, 666, 21, The European Solar Telescope

122) Lorincík, J., Dudík J. & **Aulanier G.**, 2021, ApJL, 909, 4, Saddle-shaped solar flare arcades

121) Joshi R., Schmieder B., Tei A., **Aulanier G.**, Lorincík, J., Chandra R. & Heinzel P., 2021, A&A, 645, 80, Multi-thermal atmosphere of a mini-solar flare during magnetic reconnection observed with IRIS

120) Lorincík, J., Dudík J., **Aulanier G.**, Schmieder B. & Golub L., 2021, ApJ, 906, 62, Imaging evidence for plasma outflows originating from a CME footpoint

119) **Aulanier G.**, 2021, Nature Astronomy, News & Views, Vol 5, The return of the jet

118) Joshi R., Schmieder B., **Aulanier G.**, Bommier V., Chandra R., Akiko T. & Heinzel P., 2020, A&A, 642, 169, The role of small-scale surface motions in the transfer of twist to a solar jet from a remote stable flux rope

117) Zouganelis I., De Groof A., Walsh A.P., Williams D.R., Müller D., … **Aulanier G.**, & *the Solar Orbiter consortium*, 2020, A&A, 642, 3, The Solar Orbiter science activity plan: translating solar and heliospheric physics questions into action

116) Joshi R., Chandra R., Schmieder B., Moreno-Insertis F., **Aulanier G.**, Nobrega-Siverio D. & Devi P., 2020, A&A, 639, 22, Case-study of multi-temperature coronal jets for emerging flux MHD models

115) Barczynski K., **Aulanier G.**, Janvier M. Schmieder B. & Masson S., 2020, ApJ, 895, 18, Electric current evolution at the footpoints of solar eruptions

114) Linan L., Pariat E., **Aulanier G.**, Moraitis K. & Valori G., 2020, A&A, 636, 41, Energy and helicity fluxes in line-tied eruptive simulations

113) Patsourakos S., Vourlidas A., Török T. Kliem B., Antiochos S.K., Archontis V., **Aulanier G.**, Cheng X., Chintzoglou G., et al., 2020, SSR, 216, 131, Decoding the pre-eruptive magnetic field configurations of coronal mass ejections

112) Dudík J., Lorincík, J., **Aulanier G.**, Zemanova A. & B. Schmieder, 2019, ApJ, 887, 71, Observation of all pre- and post-reconnection structures involved in three-dimensional reconnection geometries in solar eruptions

111) Lorincík, J., Dudík J., & **Aulanier G.**, 2019, ApJ, 885, 83, Manifestation of 3D magnetic reconnection in an eruption of a quiescent filament: filament strands turning to flare loops

110) Zemanova A., Dudík J., **Aulanier G.**, Thalmann J., & Gömöry P., 2019, ApJ, 883, 96, Observations of a footpoint drift of an erupting flux rope

109) Ruan G., Schmieder B., Masson S., Mein P., Mein N., **Aulanier G.**, & Chen Y., 2019, ApJ, 883, 52, Bi-directional reconnection outflows in an active region

108) Lorincík, J., **Aulanier G.**, Dudík J., Zemanova A., & Dzifcakova, E., 2019, ApJ, 881, 68, Velocities of flare kernels and the mapping norm of field line connectivity

107) Barczynski K., **Aulanier G.**, Masson S. & Wheatland M., 2019, ApJ, 877, 67, Flare reconnection driven magnetic field and Lorentz force variations at the Sun's surface

106) **Aulanier G.** & Dudík J., 2019, A&A, 621, A72 Drifting of the line-tied footpoints of CME flux-ropes

105) Jenkins J., Hopwood M., Démoulin P., Valori G., **Aulanier G.**, Long D. & van Driel Gesztelyi L., 2019, ApJ, 873, 49, Modelling the effect of mass-draining on prominence eruptions

104) Joshi N.C., Zhu X., Schmieder B., **Aulanier G.**, Janvier M., Magara T., Chandra R., & Inoue S., 2019, ApJ, 871, 165, Generalization of the magnetic field configuration of typical and atypical confined flares

103) Gunar S., Dudík J., **Aulanier G.**, Schmieder B. & Heinzel P., 2018, ApJ, 867, 115, Prominence fine structures : beware of the role of H alpha visibility and projection effects

102) Jouve L., Brun A.S. & **Aulanier G.**, 2018, ApJ, 857, 83 Interaction of twisted Omega-loops in a model solar convection zone

101) Froment C., Auchère F., Mikic Z., **Aulanier G.**, Bocchialini K., Buchlin E., Solomon J. & Soubrié E., 2018, ApJ, 855, 52 On the occurrence of thermal non-equilibrium in coronal loops

100) Schmieder B. & **Aulanier G.**, in Electric currents in Geospace and Beyond, 2018 AGU, part IV, chapter 23 Solar active region electric currents before and during flares

99) Joshi R., Zuccarello F.P., Schmieder B., Chandra R., **Aulanier G.** & Uddin W., 2017, Solar Physics, 292, 152 Slippage of jets explained by the magnetic topology of NOAA12305

98) Dudík J., Zuccarello F.P., **Aulanier G.**, Schmieder B. & Démoulin P., 2017, ApJ, 844, 54 Expanding and contracting coronal loops as evidence of vortex flows induced by solar eruptions

97) Zuccarello F.P., Chandra R., Schmieder B., **Aulanier G.** & Joshi R., 2017, A&A, 601, 26 The transition from eruptive to confined flares in the same active region

96) Zuccarello F.P., **Aulanier G.**, Dudík J., Démoulin P., Schmieder B. & Gilchrist S.A., 2017, ApJ, 837, 115 Vortex and sink flows in eruptive flares as a model for coronal implosions

95) Froment C., Auchère F., **Aulanier G.**, Mikić Z., Bocchialini K., Buchlin E. & Solomon, J. 2017, ApJ, 835, 272 Long-Period Intensity Pulsations in Coronal Loops Explained by Thermal Non-Equilibrium Cycles

94) Zuccarello F.P., **Aulanier G.** & Gilchrist S.A., 2016, ApJ Letters, 821, L23 The apparent critical decay index at the onset of solar prominence eruptions

93) Zhao J., Gilchrist S., **Aulanier G.**, Schmieder B., Li H. & Pariat E., 2016, ApJ, 823, 62 Hooked flare ribbons and flux-rope related QSL footprints

92) Dudík J., Polito V., Janvier M., Mulay S.M., Karlicky M., **Aulanier G.**, Del Zanna G., Dzifcakova E., Mason H.E. & Schmieder B., 2016, ApJ, 823, 41 Slipping magnetic reconnection, chromospheric evaporation, implosion, and precursors in the 2014 september 10 X1.6-class solar flare

91) Joshi N.C., Schmieder B., Magara T., Guo Y. & **Aulanier G.**, 2016, ApJ, 820, 126 Chain reconnections observed in sympathetic eruptions

90) **Aulanier G.**, 2016, Nature Physics, News & Views, 12, 998 When the tail wags the dog

89) Zuccarello F.P., **Aulanier G.** & Gilchrist S.A., 2015, ApJ, 814, 126 Critical decay index at the onset of solar eruptions

88) Dalmasse K., **Aulanier G.**, Démoulin P., Kliem B., Török T. & Pariat E., 2015, ApJ, 810, 17 The origin of net electric currents in solar active regions

87) Schmieder B., **Aulanier G.** & Vrsnak B., 2015, Sol Phys, 290, 3457 Flare-CME models: an observational perspective (Invited review)

86) Janvier M., **Aulanier G.** & Démoulin P., 2015, Sol Phys, 290, 3425 From coronal observations to MHD simulations, the building blocks for 3D models of solar flares (Invited review)

85) Filippov B., Srivastava A.K., Dwivedi B.N., S. Masson, **Aulanier G.**, Joshi N.C. & Uddin W., 2015, MNRAS, 451, 1117 Formation of a rotating jet during the filament eruption on 10-11 April 2013

84) Dalmasse K., Chandra R., Schmieder B. & **Aulanier G.**, 2015, A&A, 574, A37 Can we explain atypical solar flares?

83) Janvier M., **Aulanier G.**, Bommier V., Schmieder B., Démoulin P. & Pariat E., 2014 ApJ, 788, 60 Electric currents in flare ribbons: observations and three-dimensional standard model

82) Chian A.C.L., Rempel E.L., **Aulanier G.**, Schmieder B., Shadden S.C., Welsch B.T. & Yeates A.R., 2014, ApJ, 786, 51 Detection of coherent structures in photospheric turbulent flows

81) Dudík J., Janvier M., **Aulanier G.**, Del Zanna G., Karlický M., Mason H.E. & Schmieder B., 2014, ApJ, 784, 144 Slipping magnetic reconnection during an X-class flare observated by SDO/AIA

80) Török T., Leake J.E., Titov V.S., Archontis V., Mikic Z., Linton M.G., Dalmasse K., **Aulanier G.** & Kliem B., 2014, ApJ Letters, 782, L10 Distribution of electric currents in solar active regions

79) Dalmasse K., Pariat E., Démoulin P. & **Aulanier G.**, 2014, Sol Phys, 289, 107 Photospheric injection of magnetic helicity: connectivity-based flux density method

78) **Aulanier G.**, 2014, in Nature of Prominences and their Role in Space Weather, IAU Symposium 300, 184 The physical mechanisms that initiate and drive solar eruptions

77) Sun X., Hoeksema J.T., Liu Y., **Aulanier G.**, Su Y., Hannah I.G. & Hock R., 2013, ApJ, 778, 139 Hot spine loops and the nature of a late-phase solar flare

76) Schmieder B., Guo Y., Moreno-Insertis F., **Aulanier G.**, Yelles Chaouche L., Nishizuka N., Harra L.K., Thalmann J.K., Vargas Dominguez S., & Liu Y., 2013, A&A, 559, A1 Twisting solar coronal jet launched at the boundary of an active region

75) Janvier M., **Aulanier G.**, Pariat E. & Démoulin P., 2013, A&A, 555, A77 The standard flare model in three dimensions, III. Slip-running reconnection properties

74) **Aulanier G.**, Démoulin P., Schrijver C.J., Janvier M., Pariat E. & Schmieder B., 2013, A&A, 549, A66 The standard flare model in three dimensions, II. Upper limit on solar flare energy

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