

Guillaume AULANIER

Astrophysicist

specialized in
solar eruptions, numerical MHD, and space weather

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• Scientific publications:

147 peer-reviewed publications (according to SciX-ADS)
- more than 11k citations all together (SciX-ADS)
- publishing since 1996, for 31 years
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h-index = 58 (SciX-ADS), 60 (ResearchGate),
64 (Google scholar)
Bibliometric indices available on SciX-ADS

G. Aulanier is an astronomer from Observatoire de Paris, which is a school of Université Paris Sciences & Lettres (PSL). For his research, he works mainly in the Laboratory for Plasma Physics (LPP) in the campus of Sorbonne Université (SU). He also works at the Rosseland Centre for Solar Physics (RoCS) at University of Oslo (UiO) where he holds a part-time professor



position. His research focuses on the solar origins of space weather. More specifically, he is specialized in developing 3D numerical models coupled with multi-wavelength observations, for the study of solar flares, prominences, eruptions, and of magnetic reconnection in complex topologies. In practice, he is the original developer of the Observationally-driven High-order Magneto-hydrodynamics code (OHM). He is a member of the science teams of several observing instruments, on NASA's Solar Dynamics Observatory (SDO) and ESA's Solar Orbiter (SolO) spacecrafts. And he is the chief scientist of the Meudon Spectroheliograph. He is the deputy director of PSL's astrophysics graduate program, he teaches hydrodynamics at the master SUTS of PSL, and he formerly taught numerical projects at the plasma physics master of SU. He is also a regular contributor to several national and foreign funding agencies, either as a panel member or as an external reviewer. He has held a number of appointments in the administration of research and education, in particular policy officer for high-performance computing at the French Ministry of Higher Education and Research (MESR), president of the national solar terrestrial program of CNRS/INSU, director of the department of education (UFE) at Observatoire de Paris, coordinator of the LESIA laboratory's solar physics group in Meudon, and national manager for two European consortia.

• Employments & affiliations:

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	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:**

2023-present	Chief scientist	Meudon spectroheliograph within SNO 3SOLEIL	Observatoire de Paris
2019-present	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 :	FWO (W&T8, Belgium, 2019-22), Academy of Finland (Space Science, 2021), NASA (USA, 2018), 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
2016-2025	M2 physics of plasmas and fusion	SU - UPSaclay – IPParis	Solar numerical projects
2019	M1 earth sciences & environment	Université PSL	CFD for geophysics
2011-16	M2 environment and lab plasmas	UPSud, UPMC, UVSQ, X	Space plasmas - Numerical projects
2004-09	M2 astronomy & astrophysics	Observatoire de Paris	Solar MHD - CFD practical works
2002-05	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:**

2025-présent	College for research data	MESR/Open Science Com.
2024-présent	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 EU 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 & international collaborations with colleagues & students)

- Development of the standard flare model in 3D – accounting for spatiotemporal variations observed in the Sun's atmosphere
- Discovery of slip-running reconnection – occurring in quasi-separatrix layers in 3D, and along chromospheric 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 for solar flares – a few times more than the Carrington event, or the largest of the 2003 Halloween solar storms.
- Discovery of the magnetic dip geometry for prominence feet – and the development of the first model applied to observations, and its application to the hemispheric chirality rules.
- Proposal that rarefaction waves accelerate coronal outflows into the slow solar wind – from the periphery of active regions, and their association with radio noise storms.

• *Refereed publications :*

- 146) Noraz Q., Carlsson M., & **Aulanier G.**, 2026, A&A, in press, [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) Dudík 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., Dudík 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., Dudík J., Sainz Dalda A., **Aulanier G.**, Polito V., & De Pontieu B., 2025, Nature Astronomy, 9, 45, [published online 18 oct 2024, Discovery of super-Alfvénic 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) Lorincik, J., Dudík J. & **Aulanier G.**, 2021, ApJL, 909, 4, [Saddle-shaped solar flare arcades](#)

- 121) Joshi R., Schmieder B., Tei A., **Aulanier G.**, Lorincik, 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) Lorincik, J., Dudik 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) Dudik J., Lorincik, 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) Lorincik, J., Dudik 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., Dudik 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) Lorincik, J., **Aulanier G.**, Dudik 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.** & Dudik 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., Dudik 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) Dudik 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.**, Dudik 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., Karlický 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 observed 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 Chauche 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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