

# Solène Lejosne

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## EXPERIENCE

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| (2016 – Present) | <b>University of California, Berkeley</b>  | Assistant Researcher     |
| (2014 – 2016)    | <b>University of California, Berkeley</b>  | Postdoctoral Scholar     |
| (2013 6 months)  | <b>British Antarctic Survey, Cambridge</b> | Res. Assistant           |
| (2010 – 2013)    | <b>University of Toulouse, France</b>      | Ph.D. Student            |
| (2009 3 months)  | <b>Swedish Institute of Space Physics</b>  | Undergrad Res. Assistant |

## EDUCATION

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| (2010-2013) | <b>University of Toulouse, France</b>         | Ph.D. (2013) |
| (2009-2010) | <b>Supaéro - ISAE, Toulouse, France</b>       | MSc. (2010)  |
| (2006-2010) | <b>École Polytechnique, Palaiseau, France</b> | BSc. (2008)  |

## PUBLICATIONS

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1. **Lejosne, S.**, Kunduri, B.S.R, Mozer, F.S, & Turner, D.L. (2018). Energetic electron injections deep into the inner magnetosphere: a result of the subauroral polarization stream (SAPS) potential drop, *Geophys. Res. Lett.*, doi:10.1029/2018GL077969.
2. **Lejosne, S.** & Mozer, F.S. (2018). Magnetic activity dependence of the electric drift below L=3, *Geophys. Res. Lett.*, doi: 10.1029/2018GL077873.
3. Roederer, J. G., & **Lejosne, S.** (2018). Coordinates for representing radiation belt particle flux. *Journal of Geophysical Research: Space Physics*, 123, 1381–1387. <https://doi.org/10.1002/2017JA025053>.
4. Mozer, F. S., Hull, A., **Lejosne, S.**, & Vasko, I. Y. (2018). Reply to comment by Nishimura et al. *Journal of Geophysical Research: Space Physics*, 123, 2071–2077. <https://doi.org/10.1002/2018JA025218>.
5. **Lejosne, S.**, and F.S. Mozer (2017), Sub-Auroral Polarization Stream (SAPS) duration as determined from Van Allen Probe successive electric drift measurements, *Geophys. Res. Lett.*, doi: 10.1002/2017GL074985.
6. Mozer, F. S., O. V. Agapitov, A. Hull, **S. Lejosne**, and I. Y. Vasko (2017), Pulsating auroras produced by interactions of electrons and time domain structures, *J. Geophys. Res. Space Physics*, 122, doi:10.1002/2017JA024223.
7. **Lejosne, S.**, S. Maus, and F. S. Mozer (2017), Model-observation comparison for the geographic variability of the plasma electric drift in the Earth's innermost magnetosphere, *Geophys. Res. Lett.*, 44, 7634–7642, doi:10.1002/2017GL074862.
8. **Lejosne, S.**, and F.S. Mozer (2016), Typical values of the electric drift  $\mathbf{E} \times \mathbf{B}/B^2$  in the inner radiation belt and slot region as determined from Van Allen Probe measurements, *J. Geophys. Res. Space Physics*, 121, 12,014–12,024, doi: 10.1002/2016JA023613.
9. Mozer, F.S., O.A. Agapitov, V. Angelopoulos, A. Hull, D. Larson, **S. Lejosne** and J. P. McFadden (2016), Extremely Field-Aligned Cool Electrons in the Dayside Outer Magnetosphere, *Geophys. Res. Lett.*, doi: 10.1002/2016GL072054.
10. **Lejosne, S.**, and F.S. Mozer (2016), Van Allen Probe measurements of the electric drift  $\mathbf{E} \times \mathbf{B}/B^2$  at Arecibo's L = 1.4 field line coordinate, *Geophys. Res. Lett.*, 43, doi: 10.1002/2016GL069875.
11. **Lejosne, S.**, and J.G. Roederer (2016), The “zebra stripes”: An effect of F region zonal plasma drifts on the longitudinal distribution of radiation belt particles, *J. Geophys. Res. Space Physics*, 121, 507–518, doi: 10.1002/2015JA02192.

12. Mozer, F. S., O. V. Agapitov, A. Artemyev, J. F. Drake, V. Krasnoselskikh, **S. Lejosne**, and I. Vasko (2015), Time domain structures: What and where they are, what they do, and how they are made, *Geophys. Res. Lett.*, 42, 3627–3638. doi: 10.1002/2015GL063946.
13. Amaya, J., S. Musset, V. Andersson, A. Diercke, C. Höller, S. Iliev, L. Juhász, R. Kiefer, R. Lasagni, **S. Lejosne**, M. Madi, M. Rummelhagen, M. Scheucher, A. Sorba and S. Thonhofer, (2015), The PAC2MAN mission: A new tool to understand and predict solar energetic events, *J. Space Weather Space Clim*, 5, A5, DOI: 10.1051/swsc/2015005.
14. **Lejosne, S.** (2014), An algorithm for approximating the L\* invariant coordinate from the real-time tracing of one magnetic field line between mirror points, *J. Geophys. Res., Space Physics*, doi: 10.1002/2014JA020016.
15. Mozer, F.S., Agapitov, O., Krasnoselskikh, V., **Lejosne, S.**, Reeves, G.D., and Roth, I. (2014), Direct Observation of Radiation-Belt Electron Acceleration from Electron-Volt Energies to Megavolts by Nonlinear Whistlers, *Phys. Rev. Lett.*, 113, 035001.
16. **Lejosne, S.** (2013), Modélisation du phénomène de diffusion radiale au sein des ceintures de radiation terrestres par technique de changement d'échelle. Ph.D Thesis, Space Physics, University of Toulouse.
17. **Lejosne, S.**, D. Boscher, V. Maget, and G. Rolland (2013), Deriving electromagnetic radial diffusion coefficients of radiation belt equatorial particles for different levels of magnetic activity based on magnetic field measurements at geostationary orbit, *J. Geophys. Res., Space Physics*, 118, 3147-3156, doi: 10.1002/jgra.50361.
18. **Lejosne, S.**, D. Boscher, V. Maget, and G. Rolland (2012), Bounce-averaged approach to radial diffusion modeling: From a new derivation of the instantaneous rate of change of the third adiabatic invariant to the characterization of the radial diffusion process, *J. Geophys. Res.*, 117, A08321, doi:10.1029/2012JA018011.

10 seminars or invited talks and 20+ talks or posters at conferences in USA, Canada and Europe

## SYNERGISTIC ACTIVITIES

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### REVIEWER

- NASA Proposals
- Journal of Geophysical Research, Space Physics
- Geophysical Research Letters
- *Dynamics of Magnetically Trapped Particles* (2014, 2nd ed.) by J.G. Roederer and H. Zhang

### DIGITAL PRESENCE

- Author of outreach articles
- Personal website (solenelejosne.com)
- @SoleneLejosne on Twitter

### IN-PERSON OUTREACH

- Public presentation at the Toulouse Museum, France, 1 hour discussion, summer 2013
- Visit of elementary school, Givet, France (1 hour discussion + hands-on experiments), summer 2017

## AWARDS AND HONORS

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| URSI Young Scientist Award Recipient, URSI AT-RASC                       | 2018 |
| URSI GASS ECS Awardee  | 2017 |
| Best Thesis Award by the Foundation ISAE-SUPAERO                         | 2014 |
| Young Scientist Award for Best Communication Skills, French Space Agency | 2012 |