

Lead or Main-Contributing Author Publications [underline for students/postdocs directly supervised]:

- [48] Comisso, L. & **Sironi, L.** 2018, *Particle Acceleration in Relativistic Plasma Turbulence*, PRL submitted, arXiv:1809.01168
- [47] Petropoulou, M., & **Sironi, L.** 2018, *The Steady Growth of the High-Energy Spectral Cutoff in Relativistic Magnetic Reconnection*, MNRAS submitted, arXiv:1808.00966
- [46] Christie, I., Petropoulou, M., **Sironi, L.** & Giannios, D. 2018, *Radiative Signatures of Plasmoid-Dominated Reconnection in Blazar Jets*, MNRAS accepted, arXiv:1807.08041
- [45] Ball, D., **Sironi, L.** & Özel, F. 2018, *Electron and Proton Acceleration in Trans-Relativistic Magnetic Reconnection: Dependence on Plasma Beta and Magnetization*, ApJ, 862, 80
- [44] Tavecchio, F., Landoni, M., **Sironi, L.**, Coppi, P. 2018, *Probing dissipation mechanisms in BL Lac jets through X-ray polarimetry*, MNRAS, 480, 2872
- [43] Guo, X., **Sironi, L.**, & Narayan, R. 2018, *Electron Heating in Low Mach Number Perpendicular shocks. II. Dependence on the Pre-Shock Conditions*, ApJ, 858, 95
- [42] Margutti, R., Alexander, K. D., Xie, X., **Sironi, L.** et al. 2018, *The Binary Neutron Star event LIGO/VIRGO GW170817 a hundred and sixty days after merger: synchrotron emission across the electromagnetic spectrum*, ApJL, 856, L18
- [41] Bacchini, F., Ripperda, B., Yuran Chen, A., **Sironi, L.** 2018, *Generalized, energy-conserving numerical simulations of particles in general relativity. I. Time-like and null geodesics*, ApJS, 237,6
- [40] Petropoulou, M., Christie, I., **Sironi, L.** & Giannios, D. 2018, *Plasmoid statistics in relativistic magnetic reconnection*, MNRAS, 475, 3797
- [39] Ripperda, B., Bacchini, F., Teunissen, J., Xia, C., Porth, O., **Sironi, L.**, Lapenta, G., Keppens, R. 2018, *A comprehensive comparison of relativistic particle integrators*, ApJS, 235, 21
- [38] Lyutikov M., Komissarov S., **Sironi, L.**, & Porth O. 2018, *Particle acceleration in explosive relativistic reconnection events and Crab Nebula gamma-ray flares*, Journal of Plasma Physics, 84, 635840201
- [37] Lyutikov M., **Sironi, L.**, Komissarov S., & Porth O. 2017, *Particle acceleration in relativistic magnetic flux-merging events*, Journal of Plasma Physics, 83, 635830602
- [36] Lyutikov M., **Sironi, L.**, Komissarov S., & Porth O. 2017, *Explosive X-point collapse in relativistic magnetically-dominated plasma*, Journal of Plasma Physics, 83, 635830601
- [35] Guo, X., **Sironi, L.**, & Narayan, R. 2017, *Electron Heating in Low Mach Number Perpendicular shocks. I. Heating Mechanism*, ApJ, 851, 134
- [34] Rowan, M., **Sironi, L.** & Narayan, R. 2017, *Electron and proton heating in trans-relativistic magnetic reconnection*, ApJ, 850, 29
- [33] Blandford, R.; Yuan, Y.; Hoshino, M. & **Sironi, L.**, 2017, *Magnetoluminescence*, Space Science Reviews, 207, 291

- [32] **Sironi, L.** & Cerutti, B. 2017, *Particle Acceleration in Pulsar Wind Nebulae: PIC modelling*, “Modelling Nebulae” edited by D. Torres, Astrophysics and Space Science Library, Volume 446
- [31] Bret, A., Pe’er, A., **Sironi, L.**, Sadowski, A. & Narayan, R. 2017, *Kinetic inhibition of magnetohydrodynamics shocks in the vicinity of a parallel magnetic field*, Journal of Plasma Physics, 83, 715830201
- [30] Petropoulou, M., Giannios, D. & **Sironi, L.** 2016, *Blazar flares powered by plasmoids in relativistic reconnection*, MNRAS, 462, 3325
- [29] **Sironi, L.**, Giannios, D. & Petropoulou, M. 2016, *Plasmoids in relativistic reconnection, from birth to adulthood: first they grow, then they go*, MNRAS, 462, 48
- [28] Petropoulou, M., Kamble, A. & **Sironi, L.** 2016, *Radio Synchrotron Emission from Secondary Electrons in Interaction-Powered Supernovae*, MNRAS, 460, 44
- [27] **Sironi, L.**, Keshet, U. & Lemoine, M. 2015, *Relativistic Shocks: Particle Acceleration and Magnetization*, Space Science Reviews, 191, 519
- [26] **Sironi, L.**, Petropoulou, M. & Giannios, D. 2015, *Relativistic jets shine through shocks or magnetic reconnection?*, MNRAS, 450, 183
- [25] Kagan, D., **Sironi, L.**, Cerutti, B. & Giannios, D. 2015, *Relativistic magnetic reconnection in pair plasmas and its astrophysical applications*, Space Science Reviews, 191, 545
- [24] Bai, X., Caprioli, D., **Sironi, L.**, & Spitkovsky, A. 2015, *Magnetohydrodynamic-Particle-in-Cell Method for Coupling Cosmic Rays with a Thermal Plasma: Application to Non-relativistic Shocks*, ApJ, 809, 55
- [23] **Sironi, L.**, 2015, *Electron Heating by the Ion Cyclotron Instability in Collisionless Accretion Flows. II. Electron Heating Efficiency as a Function of the Flow Conditions*, ApJ, 800,89
- [22] **Sironi, L.**, & Narayan, R. 2015, *Electron Heating by the Ion Cyclotron Instability in Collisionless Accretion Flows. I. Compression-Driven Instabilities and the Electron Heating Mechanism*, ApJ, 800, 88
- [21] Guo, X., **Sironi, L.**,& Narayan, R. 2014, *Non-Thermal Electron Acceleration in Low Mach Number Collisionless Shocks. II. Firehose-Mediated Fermi Acceleration and its Dependence on Pre-Shock Conditions*, ApJ, 797, 47
- [20] Guo, X., **Sironi, L.**, & Narayan, R. 2014, *Non-Thermal Electron Acceleration in Low Mach Number Collisionless Shocks. I. Particle Energy Spectra and Acceleration Mechanism*, ApJ, 794, 153
- [19] Abarca, D., Sadowski, A., & **Sironi, L.**, 2014, *Simulating the effect of the Sgr A* accretion flow on the appearance of G2 after pericenter*, MNRAS, 440, 1125
- [18] **Sironi, L.**, & Spitkovsky, A. 2014, *Relativistic Reconnection: an Efficient Source of Non-Thermal Particles*, ApJL, 783, L21
- [17] **Sironi, L.**, & Giannios, D. 2014, *Relativistic Pair Beams from TeV Blazars: A Source of Reprocessed GeV Emission rather than IGM Heating*, ApJ, 787, 49

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- [16] **Sironi, L.**, & Giannios, D. 2013, *A Late-time Flattening of Light Curves in Gamma-Ray Burst Afterglows*, ApJ, 778, 107
- [15] Sadowski, A., Narayan, R., **Sironi, L.**, & Özel, F. 2013, *Location of the bow shock ahead of cloud G2 at the Galactic Centre*, MNRAS, 433, 2165
- [14] Giannios, D. & **Sironi, L.**, 2013, *The S2 star as a probe of the accretion disk of Sgr A**, MNRAS, 433, L25
- [13] **Sironi, L.**, Spitkovsky, A. & Arons, J. 2013, *The Maximum Energy of Accelerated Particles in Relativistic Collisionless Shocks*, ApJ, 771, 54
- [12] Socrates, A. & **Sironi, L.**, 2013, *Photon Feedback: Screening and the Eddington Limit*, ApJL, 772, L21
- [11] Sadowski, A., **Sironi, L.**, Abarca, D., Guo, X., Özel, F. & Narayan, R. 2013, *Radio light curves during the passage of cloud G2 near Sgr A**, MNRAS, 432, 478
- [10] Nava, L., **Sironi, L.**, Ghisellini, G., Celotti, A. & Ghirlanda, G. 2013, *Afterglow emission in Gamma-Ray Bursts: I. Pair-enriched ambient medium and radiative blast waves*, MNRAS, 433, 2107
- [9] **Sironi, L.**, & Spitkovsky, A. 2012, *Particle-in-Cell Simulations of Shock-Driven Reconnection in Relativistic Striped Winds*, Comput. Sci. Disc. 5, 014014
- [8] Narayan, R., Özel, F. & **Sironi, L.**, 2012, *Radio Synchrotron Emission from a Bow Shock around the Gas Cloud G2 Heading toward the Galactic Center*, ApJL, 757, L20
- [7] **Sironi, L.**, & Spitkovsky, A. 2011, *Acceleration of Particles at the Termination Shock of a Relativistic Striped Wind*, ApJ, 741, 39
- [6] **Sironi, L.**, & Spitkovsky, A. 2011, *Particle Acceleration in Relativistic Magnetized Collisionless Electron-Ion Shocks*, ApJ, 726, 75
- [5] **Sironi, L.**, & Socrates, A. 2010, *The Eddington Limit in Cosmic Rays: An Explanation for the Observed Lack of Low-Mass Radio-Loud Quasars and the $M_{\bullet} - M_{\star}$ Relation*, ApJ, 710, 891
- [4] **Sironi, L.**, & Spitkovsky, A. 2009, *Synthetic Spectra from PIC Simulations of Relativistic Collisionless Shocks*, ApJL, 707, L92
- [3] **Sironi, L.**, & Spitkovsky, A. 2009, *Particle Acceleration in Relativistic Magnetized Collisionless Pair Shocks: Dependence of Shock Acceleration on Magnetic Obliquity*, ApJ, 698, 1523
- [2] **Sironi, L.**, & Draine, B. 2009, *Polarized Infrared Emission by Polycyclic Aromatic Hydrocarbons Resulting from Anisotropic Illumination*, ApJ, 698, 1292
- [1] **Sironi, L.**, & Goodman, J. 2007, *Production of Magnetic Energy by Macroscopic Turbulence in GRB Afterglows*, ApJ, 671, 1858

Other Refereed Publications:

- [8] Law, C. J.; Gaensler, B. M.; Metzger, B. D.; Ofek, E. O.; & **Sironi, L.** 2018, *Discovery of the Luminous, Decades-Long, Extragalactic Radio Transient FIRST J141918.9+394036*, ApJL submitted, arXiv:1808.08964
- [7] Johnson, M. D. et al. 2018, *The Scattering and Intrinsic Structure of Sagittarius A* at Radio Wavelengths*, ApJ in press, arXiv:1808.08966
- [6] Chael, A., Rowan, M., Narayan, R., Johnson, M., & **Sironi, L.** 2018, *The role of electron heating physics in images and variability of the Galactic Centre black hole Sagittarius A**, MNRAS, 478, 5209
- [5] Alexander, K. et al. 2018, *A Decline in the X-ray through Radio Emission from GW170817 Continues to Support an Off-Axis Structured Jet*, ApJL, 863, L18
- [4] Ball, D., Özel, F., Psaltis, D., Chan, C.-K., & **Sironi, L.** 2018, *The Properties of Reconnection Current Sheets in GRMHD Simulations of Radiatively Inefficient Accretion Flows*, ApJ, 853, 184
- [3] Petropoulou, M., Coenders, S., Vasilopoulos, G., Kamble, A., & **Sironi, L.** 2017, *Point-source and diffuse high-energy neutrino emission from Type II supernovae*, MNRAS, 470, 1881
- [2] Ghirlanda, G. et al. 2013, *Radio afterglows of a complete sample of bright Swift GRBs: predictions from present days to the SKA era*, MNRAS, 435, 2543
- [1] Margutti, R. et al. 2013, *The Signature of the Central Engine in the Weakest Relativistic Explosions: GRB 100316D*, ApJ, 778, 18

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