



Sergio Martin Alvarez

Postdoctoral Scholar, Physics

Bio

STANFORD ADVISORS

- Susan Clark, Postdoctoral Faculty Sponsor

Publications

PUBLICATIONS

- **Extragalactic Magnetism with SOFIA (SALSA Legacy Program). V. First Results on the Magnetic Field Orientation of Galaxies** *ASTROPHYSICAL JOURNAL*
Borlaff, A. S., Lopez-Rodriguez, E., Beck, R., Clark, S. E., Ntormousi, E., Tassis, K., Martin-Alvarez, S., Tahani, M., Dale, D. A., del Moral-Castro, I., Roman-Duval, J., Marcum, P. M., Beckman, et al
2023; 952 (1)
- **Extragalactic Magnetism with SOFIA (SALSA Legacy Program): The Magnetic Fields in the Multiphase Interstellar Medium of the Antennae Galaxies*** *ASTROPHYSICAL JOURNAL LETTERS*
Lopez-Rodriguez, E., Borlaff, A. S., Beck, R., Reach, W. T., Mao, S., Ntormousi, E., Tassis, K., Martin-Alvarez, S., Clark, S. E., Dale, D. A., del Moral-Castro, I.
2023; 942 (1)
- **Extragalactic Magnetism with SOFIA (SALSA Legacy Program). III. First Data Release and On-the-fly Polarization Mapping Characterization*** *ASTROPHYSICAL JOURNAL*
Lopez-Rodriguez, E., Clarke, M., Shenoy, S., Vacca, W., Coude, S., Arneson, R., Ashton, P., Eftekharzadeh, S., Beck, R., Beckman, J. E., Borlaff, A. S., Clark, S. E., Dale, et al
2022; 936 (1)
- **Extragalactic Magnetism with SOFIA (SALSA Legacy Program). IV. Program Overview and First Results on the Polarization Fraction*** *ASTROPHYSICAL JOURNAL*
Lopez-Rodriguez, E., Mao, S., Beck, R., Borlaff, A. S., Ntormousi, E., Tassis, K., Dale, D. A., Roman-Duval, J., Subramanian, K., Martin-Alvarez, S., Marcum, P. M., Clark, S. E., Reach, et al
2022; 936 (1)
- **LyC escape from sphinx galaxies in the Epoch of Reionization** *MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY*
Rosdahl, J., Blaizot, J., Katz, H., Kimm, T., Garel, T., Haehnelt, M., Keating, L. C., Martin-Alvarez, S., Michel-Dansac, L., Ocvirk, P.
2022; 515 (2): 2386-2414
- **Radiation-magnetohydrodynamics simulations of cosmic ray feedback in disc galaxies** *MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY*
Farcy, M., Rosdahl, J., Dubois, Y., Blaizot, J., Martin-Alvarez, S.
2022; 513 (4): 5000-5019
- **Towards convergence of turbulent dynamo amplification in cosmological simulations of galaxies** *MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY*
Martin-Alvarez, S., Devriendt, J., Slyz, A., Sijacki, D., Richardson, M. A., Katz, H.
2022; 513 (3): 3326-3344

- **Momentum deposition of supernovae with cosmic rays** *MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY*
Montero, F., Martin-Alvarez, S., Sijacki, D., Slyz, A., Devriendt, J., Dubois, Y.
2022; 511 (1): 1247-1264
- **The nature of high [O III](88) (μ) (m)/[C II](158) (μ m) galaxies in the epoch of reionization: Low carbon abundance and a top-heavy IMF?** *MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY*
Katz, H., Rosdahl, J., Kimm, T., Garel, T., Blaizot, J., Haehnelt, M. G., Michel-Dansac, L., Martin-Alvarez, S., Devriendt, J., Slyz, A., Teyssier, R., Ocvirk, P., Laporte, et al
2022; 510 (4): 5603-5622
- **Introducing SPHINX-MHD: the impact of primordial magnetic fields on the first galaxies, reionization, and the global 21-cm signal** *MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY*
Katz, H., Martin-Alvarez, S., Rosdahl, J., Kimm, T., Blaizot, J., Haehnelt, M. G., Michel-Dansac, L., Garel, T., Onorbe, J., Devriendt, J., Slyz, A., Attia, O., Teyssier, et al
2021; 507 (1): 1254-1282
- **Unravelling the origin of magnetic fields in galaxies** *MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY*
Martin-Alvarez, S., Katz, H., Sijacki, D., Devriendt, J., Slyz, A.
2021; 504 (2): 2517-2534
- **Cosmological magnetogenesis: the Biermann battery during the Epoch of reionization** *MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY*
Attia, O., Teyssier, R., Katz, H., Kimm, T., Martin-Alvarez, S., Ocvirk, P., Rosdahl, J.
2021; 504 (2): 2346-2359
- **How primordial magnetic fields shrink galaxies** *MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY*
Martin-Alvarez, S., Slyz, A., Devriendt, J., Gomez-Guijarro, C.
2020; 495 (4): 4475-4495
- **Compact Star-forming Galaxies as Old Starbursts Becoming Quiescent** *ASTROPHYSICAL JOURNAL*
Gomez-Guijarro, C., Magdis, G. E., Valentino, F., Toft, S., Man, A. S., Ivison, R. J., Tisanic, K., van der Vlugt, D., Stockmann, M., Martin-Alvarez, S., Brammer, G.
2019; 886 (2)
- **Magnetogenesis at Cosmic Dawn: tracing the origins of cosmic magnetic fields** *MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY*
Katz, H., Martin-Alvarez, S., Devriendt, J., Slyz, A., Kimm, T.
2019; 484 (2): 2620-2631
- **A three-phase amplification of the cosmic magnetic field in galaxies** *MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY*
Martin-Alvarez, S., Devriendt, J., Slyz, A., Teyssier, R.
2018; 479 (3): 3343-3365
- **On the interplay between cosmological shock waves and their environment** *ASTROPHYSICS AND SPACE SCIENCE*
Martin-Alvarez, S., Planelles, S., Quilis, V.
2017; 362 (5)