Alex Infanger

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Education

Stanford University. (09/2016-present)
Second year PhD student in ICME.
Expected graduation 2020-2022.

University of California, Santa Cruz. (08/2012-09/2016)
Summa cum laude, Phi Beta Kappa.
BS in Physics, highest honors.
Senior Thesis, *The Existence of Terrestrial Gamma-Ray Flashes that Paralyze RHESSI*, awarded the Dean's and Chancellor's Awards.
Minor in Mathematics.

Research & Work

Infanger Investment Technology (06/2017-09/2017)
Quantitative Analyst Intern

- Modeled time series using standard stochastic techniques.
- Optimized sparse regression code for an ML based portfolio.
- Automatized fund analyses using the Bloomberg API and VBA.

Santa Cruz Institute for Particle Physics (06/2013-09/2016)
Research Assistant

- Discovered a new class of Terrestrial Gamma-ray Flashes (TGFs) in the Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) data set.
- Performed Monte Carlo analyses with lightning location data in order to estimate the probability of a TGF candidate coming from background processes.

Lawrence Livermore National Laboratory (06/2014-08/2014)
Research Assistant

- Modeled response of Radiation Portal Monitors and other instruments to TGFs.
- Determined that TGF attenuation due to Compton scattering in the atmosphere makes it unlikely for ground-based nuclear safety detectors to trigger on TGFs.

Honors

- Session Chair: Instrumentation and Data Analysis, Conference for Thunderstorms and Energetic Particle Acceleration (TEPA) 2014. Yerevan, Armenia.
- Ron Ruby Award: $2540.00 award to attend TEPA 2014 Conference.

Publications

"The rarity of terrestrial gamma-ray flashes II: *RHESSI* stacking analysis"
D. M. Smith, P. Buzbee, N. A. Kelley, A. Infanger, R. H. Holzworth, J.R. Dwyer. Journal of Geophysical Research: Atmospheres (2016).

"Quantifying the brightness of terrestrial gamma-ray flashes using delayed, Compton-scattered photons"
N. A. Kelley, D. M. Smith, P. Buzbee, A. Infanger, M. Splitt, R. H. Holzworth, and J. R. Dwyer. *(In preparation for the Journal of Geophysical Research (Atmospheres)).*

Programming Julia, Python, C, Matlab, VBA, Java.