Development of novel algorithms for detecting high-energy transient events in astronomical time series.
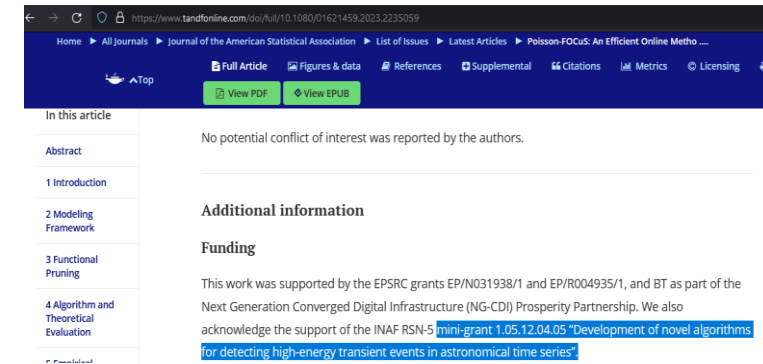
Rendicontazione Minigrant 2023

Giuseppe Dilillo, INAF-IAPS

2023/11/06

Obbiettivi raggiunti

- Pubblicato @ Journal of the American Statistical Association
  Ward, K., Dilillo, G., Eckley, I., & Fearnhead, P. (2023). Poisson-FOCuS: An efficient online method for detecting count bursts with application to gamma ray burst detection. *Journal of the American Statistical Association*, 1-13.

- Accettato per la pubblicazione @ Astronomy and computing
  Crupi, R., Dilillo, G., Bissaldi, E., Fiore, F., & Vacchi, A. (2023). Searching for long faint astronomical high energy transients: a data driven approach. *Accepted for publication at Astronomy and Computing*

- Undergoing review @ The Astrophysical Journal:
  Dilillo, G., Ward, K., Eckley I., Fearnhead P., Crupi R., Evangelista Y., Vacchi A., Fiore F. (2023). Gamma-ray burst detection with Poisson-FOCuS and other trigger algorithms. *Undergoing review for The Astrophysical Journal.*

- We made an implementation for HERMES-Pathfinder and proposed it for application on-board the satellites.
  https://github.com/peppedilillo/grb-trigger-algorithms
  https://zenodo.org/records/10069414

Spese sostenute

1. Astroinformatics, conferenza con talk e proceedings 01/10/2023 (Napoli) ~ 1344 eur.

2. Astrostatistics school, corso statistica bayesiana 16/10/2023 (Milano) ~ 990 eur.

Spese attese:

- Costi pubblicazione APJ, ~3000 eur.
- TBD

Criticalità

Non ci sono criticalità da segnalare.