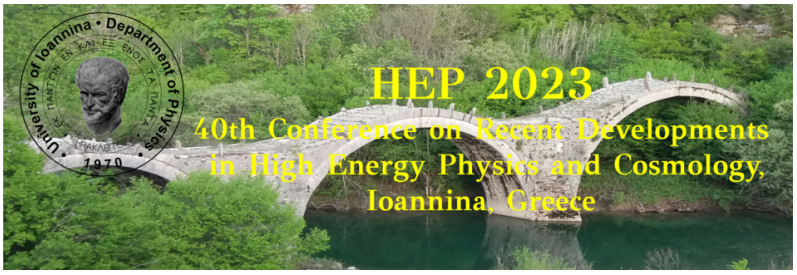

Contribution ID: **75** Type: **not specified**

Heavier tail likelihoods for robustness against data outliers; Applications to the analysis of Gravitational Wave data

Wednesday 5 April 2023 17:00 (20 minutes)

In recent years we have been witnesses of the blooming of Gravitational Wave Astronomy. In the near future, with the more advanced, as well as the space-based detectors coming online, it is expected to detect events originating from compact binary objects at much higher rates. One of the future data analysis challenges, is performing robust statistical analyses in the presence of detector noise transients, or non-stationarities, which might originate from astrophysical sources. In this work, we propose a heavier-tailed likelihood filter based on the Hyperbolic distribution. We discuss the advantages of this formulation, after applying it to examples taken from synthetic datasets.

Primary author: SASLI, Argyro (Aristotle University of Thessaloniki)

Co-authors: Dr KARNESIS, Nikolaos (Aristotle University of Thessaloniki); STERGIOULAS, Nikolaos (Aristotle University of Thessaloniki)

Presenter: SASLI, Argyro (Aristotle University of Thessaloniki)

Session Classification: Parallel (Theory)