

AISSAI Anomaly Detection Workshop



ID de Contribution: 6

Type: Non spécifié

Mysterious Lights: anomaly detection in astronomy

lundi 4 mars 2024 14:00 (45 minutes)

The discovery of unusual objects drives all scientific fields, and astronomy is no exception, given its diverse range of astrophysical phenomena. In the era of large sky surveys and machine learning, researchers design automated pipelines to sift through data and identify objects that could enhance our understanding of the Universe.

In this talk, I review the challenges and solutions the astronomy community faces in anomaly detection. I explore various domains, including gravitational waves and particle astrophysics, with a focus on electromagnetic radiation, spanning from radio to gamma rays. Electromagnetic data is represented in various forms, each requiring unique algorithms for analysis. I discuss anomaly detection for images, time-series, and spectral data. Lastly, I speculate about future astronomical surveys and how anomaly detection will aid the scientific community in uncovering rare and unusual celestial events.

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Classification de Session: Invited