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Searching for stellar streams with machine learning

Some machine learning methods that have been developed for particle physics applications are actually completely general with regards to the data. In this talk, I will show how ANODE and CATHODE, originally created to search for anomalies in particle physics, can be used to search for stellar streams in the Milky Way using data from the Gaia space telescope. Stellar streams are important astronomical objects that can provide information about the Galaxy's potential, its evolution and dark matter distribution. I will present the updated Via Machinae results (Shih, Buckley, Necib), based on ANODE, and the new results from Via Cathode (Hallin, Shih, Krause, Buckley), based on CATHODE. I will also provide a comparison between the two methods.

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