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Searching for open clusters in Gaia DR3 using a parallax-blind approach.

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Abstract

Gaia data is providing a unique opportunity to explore the structure of the Milky Way by discovering more and more of one of its best tracers: open clusters. Innovative algorithms, supported by Gaia accurate proper motions, parallaxes, photometry, and radial velocities (whenever available), have identified hundreds of new clusters of stars across the Galactic disk and bulge in only a few years. However, parallax measurements as a key ingredient in those techniques might lead to the possible loss of clusters when individual-associated uncertainties are relatively high. In this work, we will describe our attempts to perform a parallax-blind search of open clusters and show that there is still room for further discoveries thanks to the precious information contained in such an unprecedented database.

My poster is available at https://zenodo.org/record/7039479#.Y8FZYeLMJqw