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Harnessing Postgres and HPC for Petabyte-Scale Variable Star Classification in Astronomy

Friday 17 January 2025 15:25 (45 minutes)

In this talk, we will showcase our use of a Massively Parallel Postgres Database as a petabyte-scale astronomical datastore, powering variable star analysis for the ESA Gaia space telescope. Our presentation will also highlight two Postgres extensions developed in-house: a new Postgres-to-Java interface and a GPU-accelerated vector index. Both extensions are implemented as Postgres background workers and improve on existing solutions in the HPC context.

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