Astroes: Elasticsearch plugin for searches on the celestial sphere

TECHNOLOGY DESCRIPTION
Astroes is an Elasticsearch plugin developed for ESO archive services, which provides spatial capabilities on the celestial sphere by incorporating a topology library that fully support spherical geometry. In addition, it provides the capability of aggregating information on the sky by using healpix as unit of aggregation. The new capabilities provided by this plugin, spatial search and spatial aggregation, and the already built-in features of the search engine provide a powerful back-end technology to build modern, fast and interactive astronomical archive services.

APPLICATION
The technology can be used for enhanced search function in practically any fields.

ADDED-VALUE AND BENEFITS
Enhanced functionality and services, as it overpowers the performance and capabilities of traditional relational databases.
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TECHNOLOGY READINESS
The technology has been tested at ESO and is now used there. The company Elasticsearch is currently doing further testing in company environment.

IP STATUS
This application is not protected by a legal title. It uses free and open software of third parties (www.elastic.co; https://lucene.apache.org) by extending their capabilities and functionalities. ESO is not planning to protect the application. For more information contact information@eso.org

Presentation: https://www.youtube.com/watch?v=WKVuF0ypLQM at the time between 1:04:00 to 1:16:00
Additional power point presentation and a preprint publication is available, contact epatkos@eso.org
Thank you

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