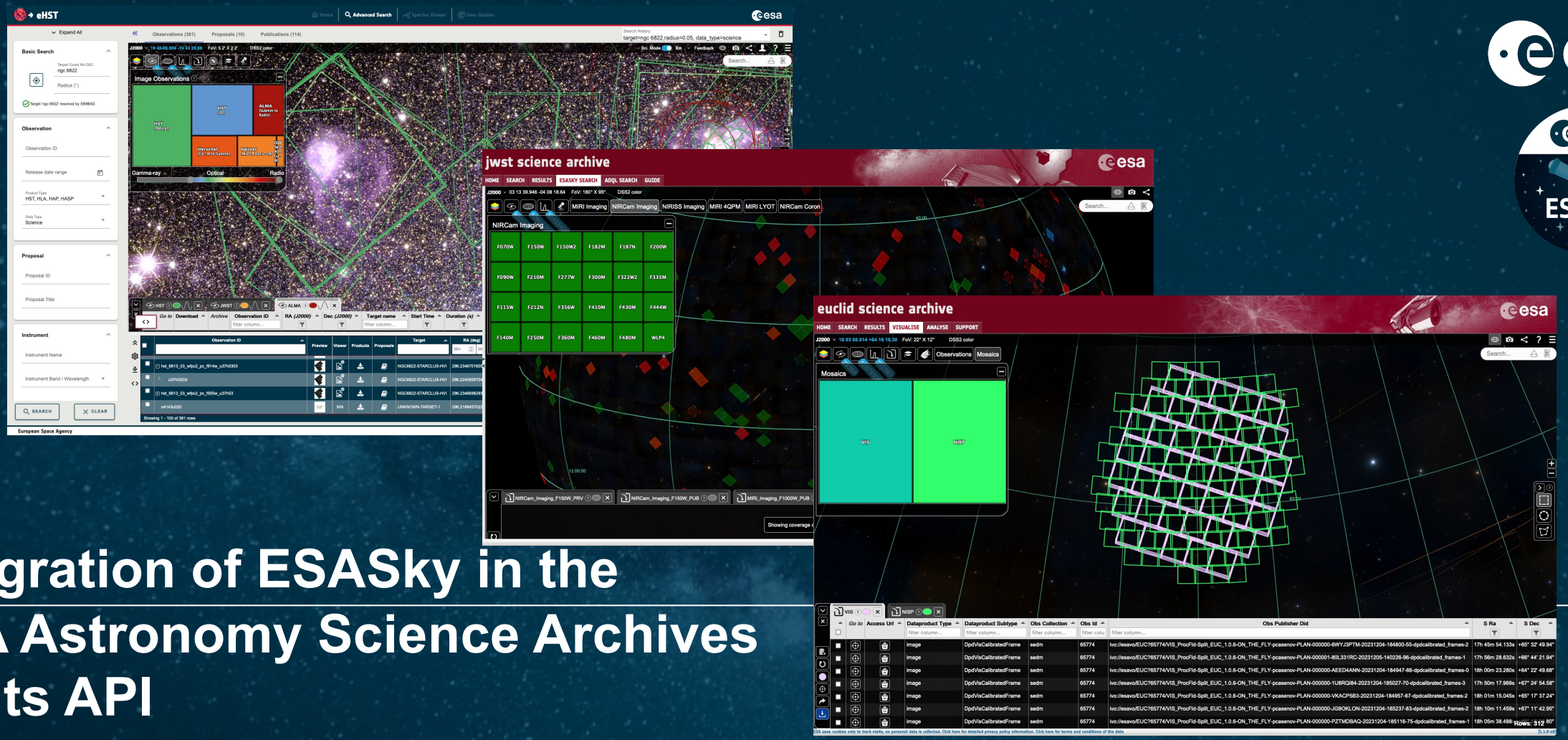

Integration of ESASky in the ESA Astronomy Science Archives via its API

R. Bhatawdekar[1], M. López-Caniego[2], D. Baines[3], J. Espinosa[4], H. Norman[5], P. Matsson[5], E. Puga[5], M. Fernández[4], S. Nieto[4], J. Osinde[4], M. Arévalo[4], J. de Bruijne[1], G. de Marchi[1], B. Merín[1], C. Arviset[1] and the ESDC

[1]ESA, [2]Aurora Technology for ESA,[3]Quasar for ESA, [4]Starion for ESA, [5]Winterway for ESA

IVOA Interop 23rd May 2024, Sydney, Australia

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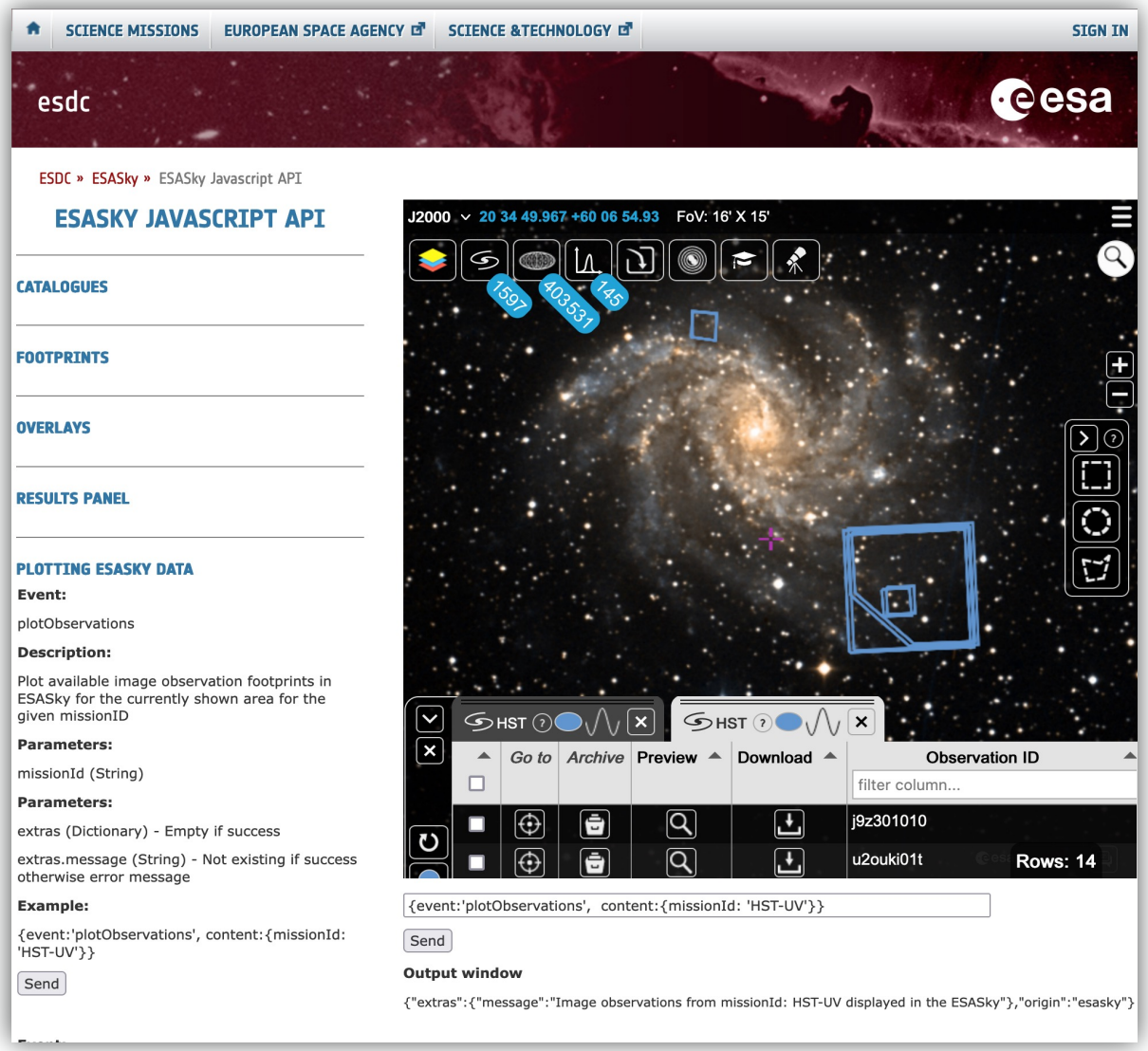
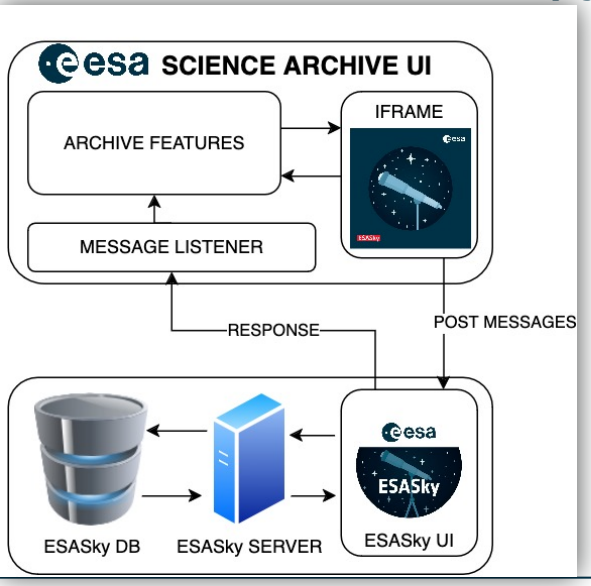
ESASky and ESASky API evolution



ESASky is a multi-mission, multi-wavelength, multi-messenger data discovery portal that allows users to discover data from ESA's astronomy missions and from the missions from partner space agencies like NASA, CSA, JAXA, the Chinese Academy of Sciences.

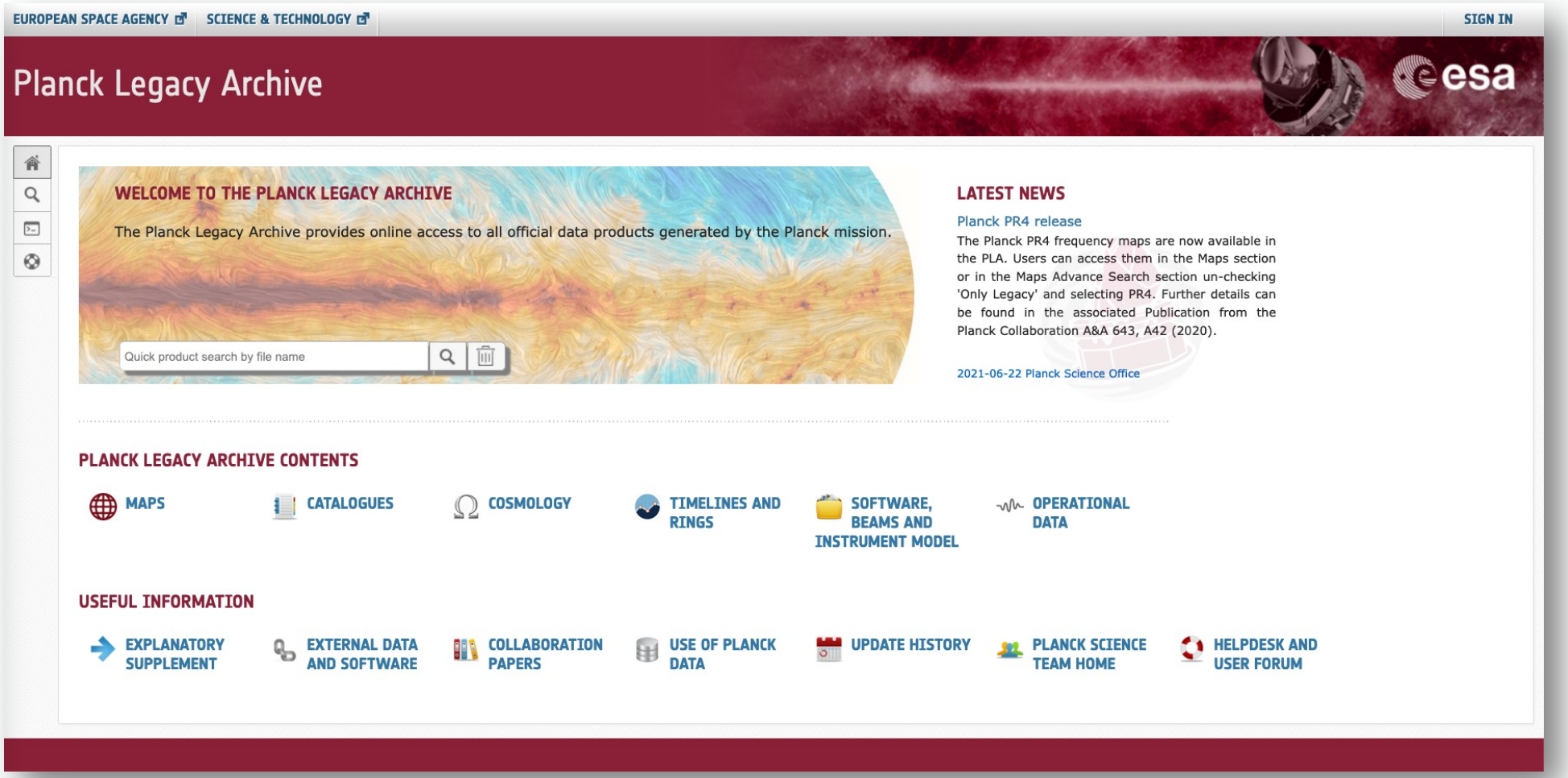
ESASky was released in 2015 and since then its API has evolved significantly to cover the growing needs from pyESASky, EVA bot and several ESDC archives.

https://www.cosmos.esa.int/web/esdc/esasky-javascript-api



Planck Legacy Archive

The Planck Legacy Archive integrated ESASky to provide context in the cutout tool



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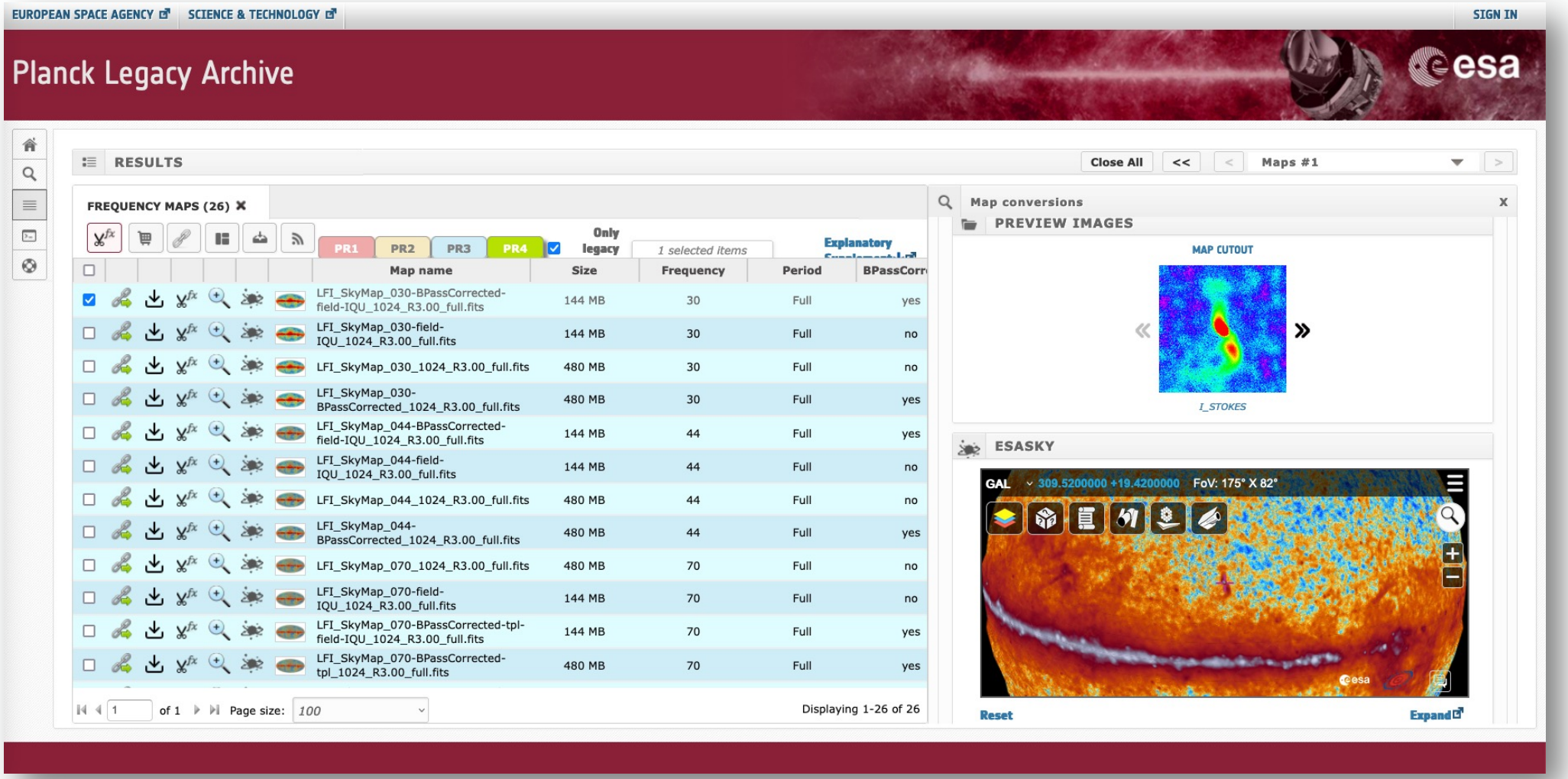
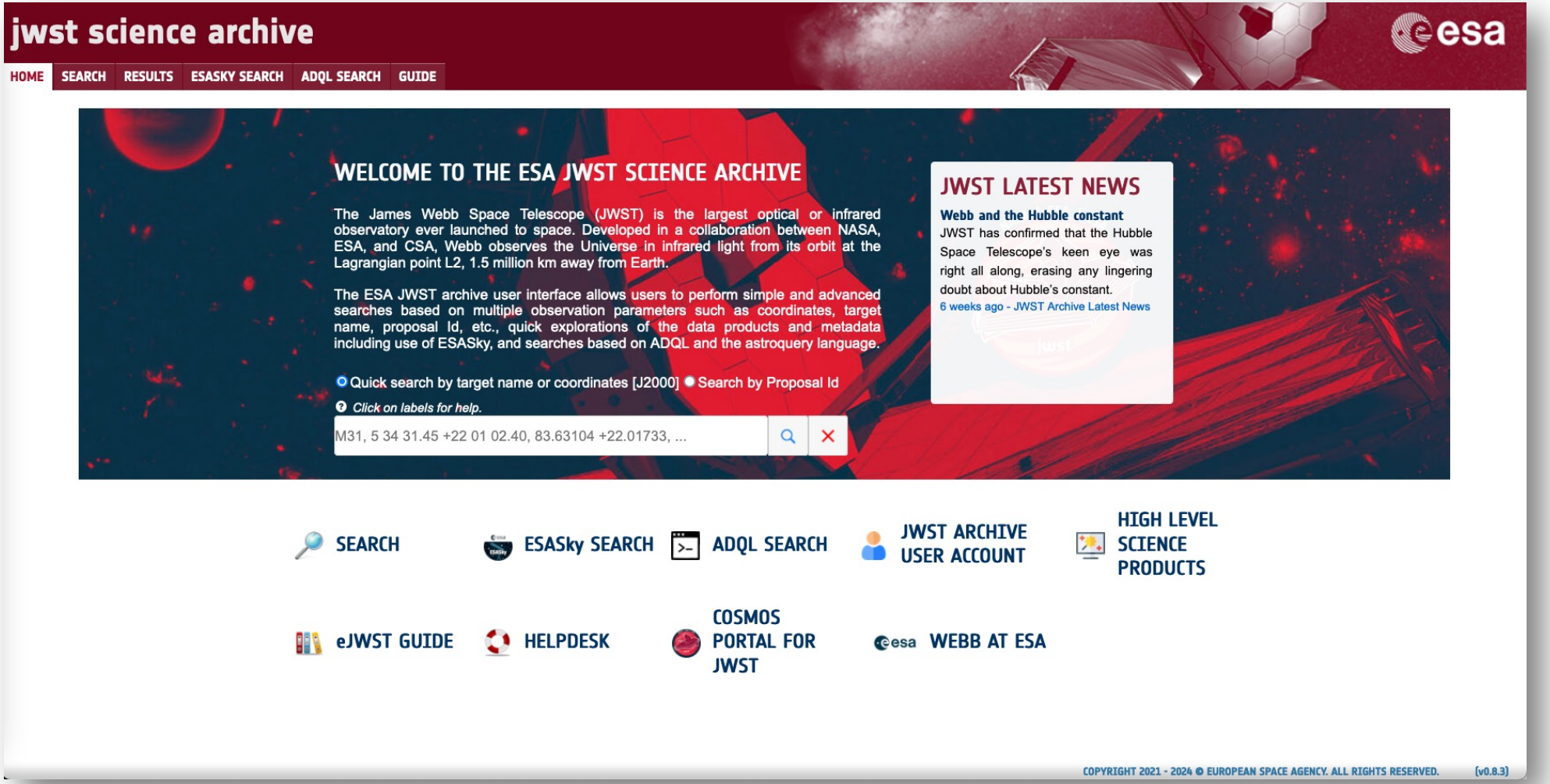


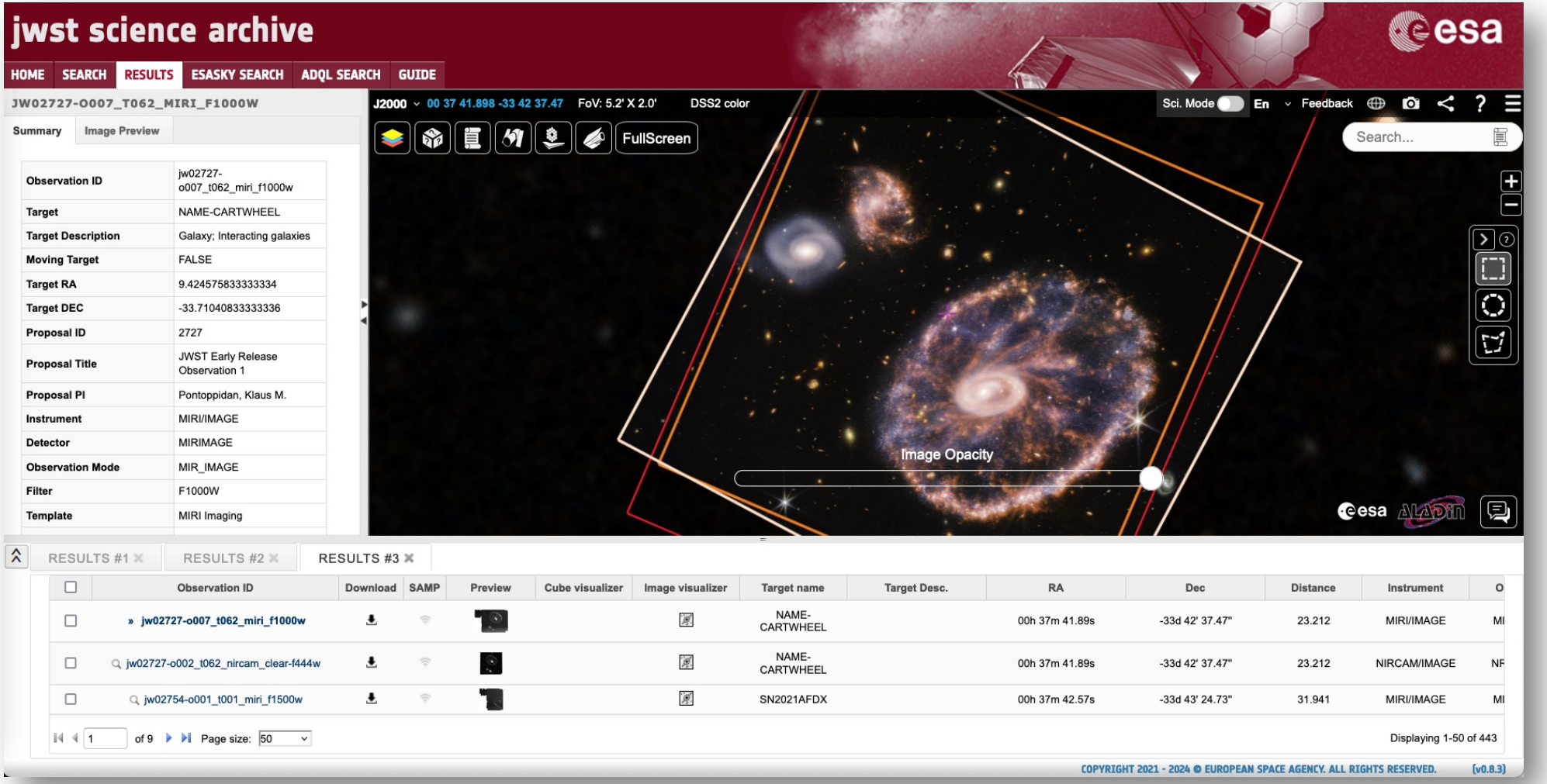
European JWST Science Archive

The eJWST archive was the second archive to integrate ESASky

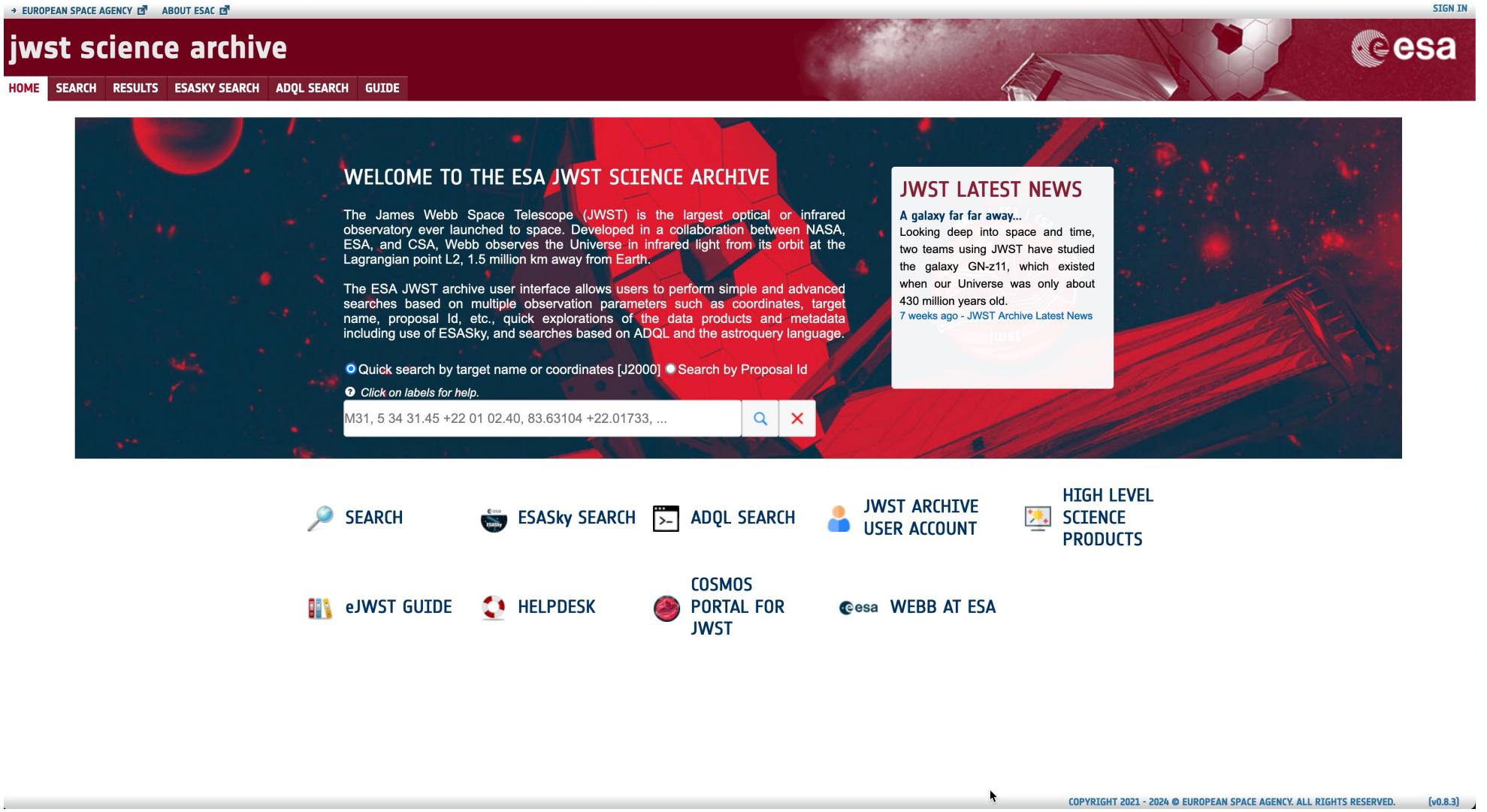


European JWST Science Archive

A fully functional ESASky is used to overlay the footprints from the observations in the results table

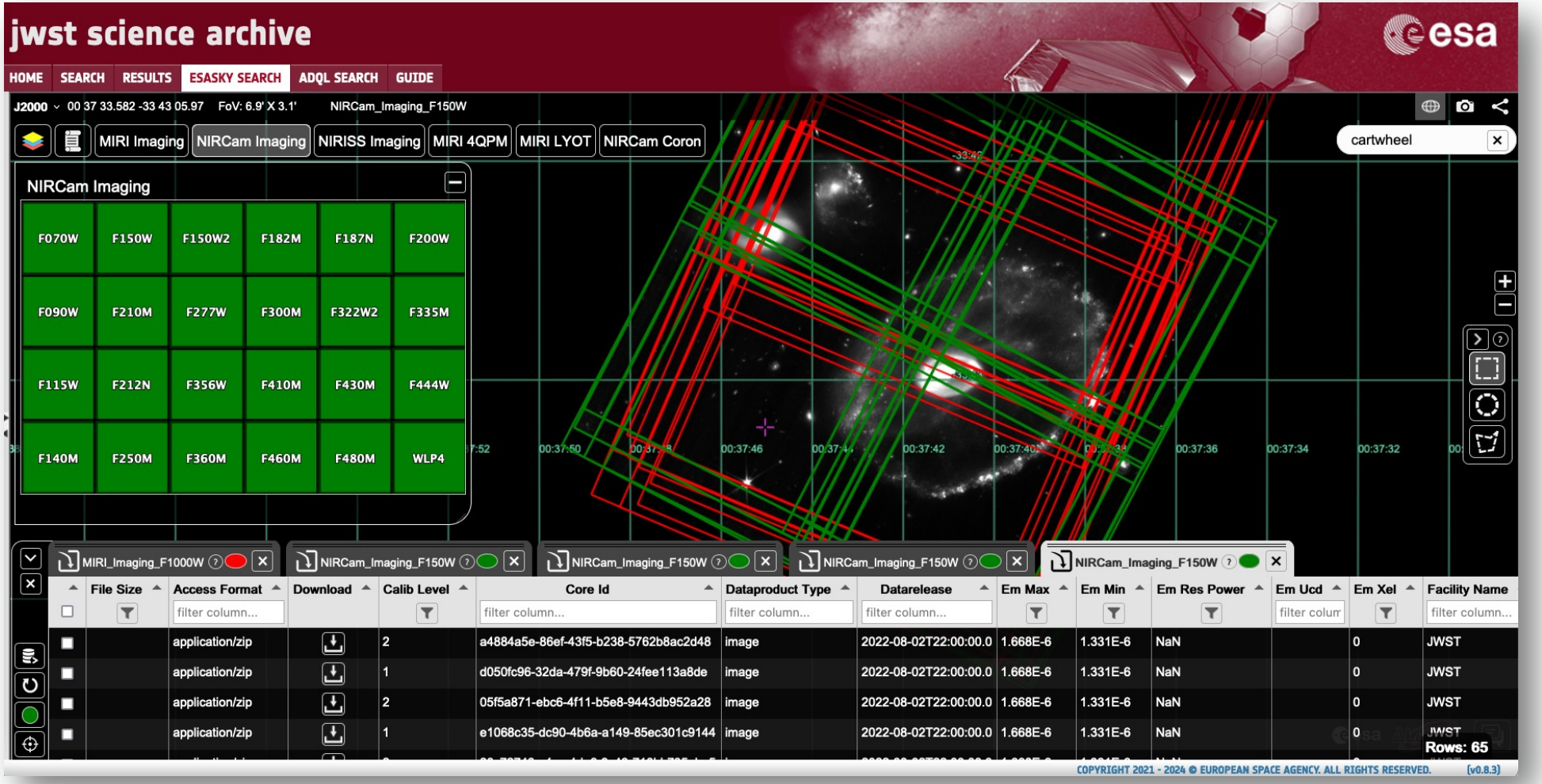


European JWST Science Archive



European JWST Science Archive

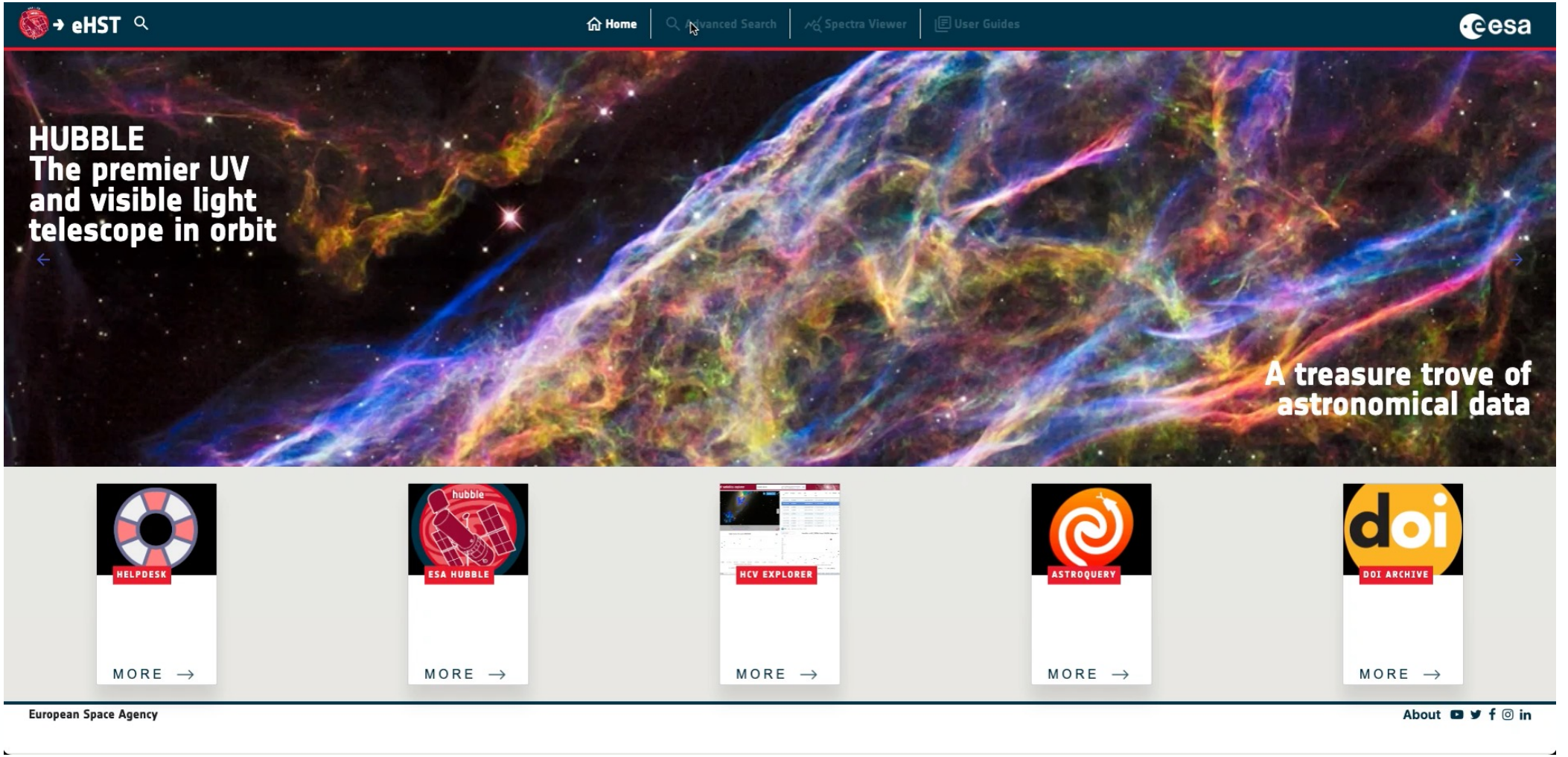
Tthe ESASky Explorer was added with a customization layer to facillitate the discovery of the eJWST archive contents with custom buttons to filter by observing mode and filter.



European Hubble Science Archive

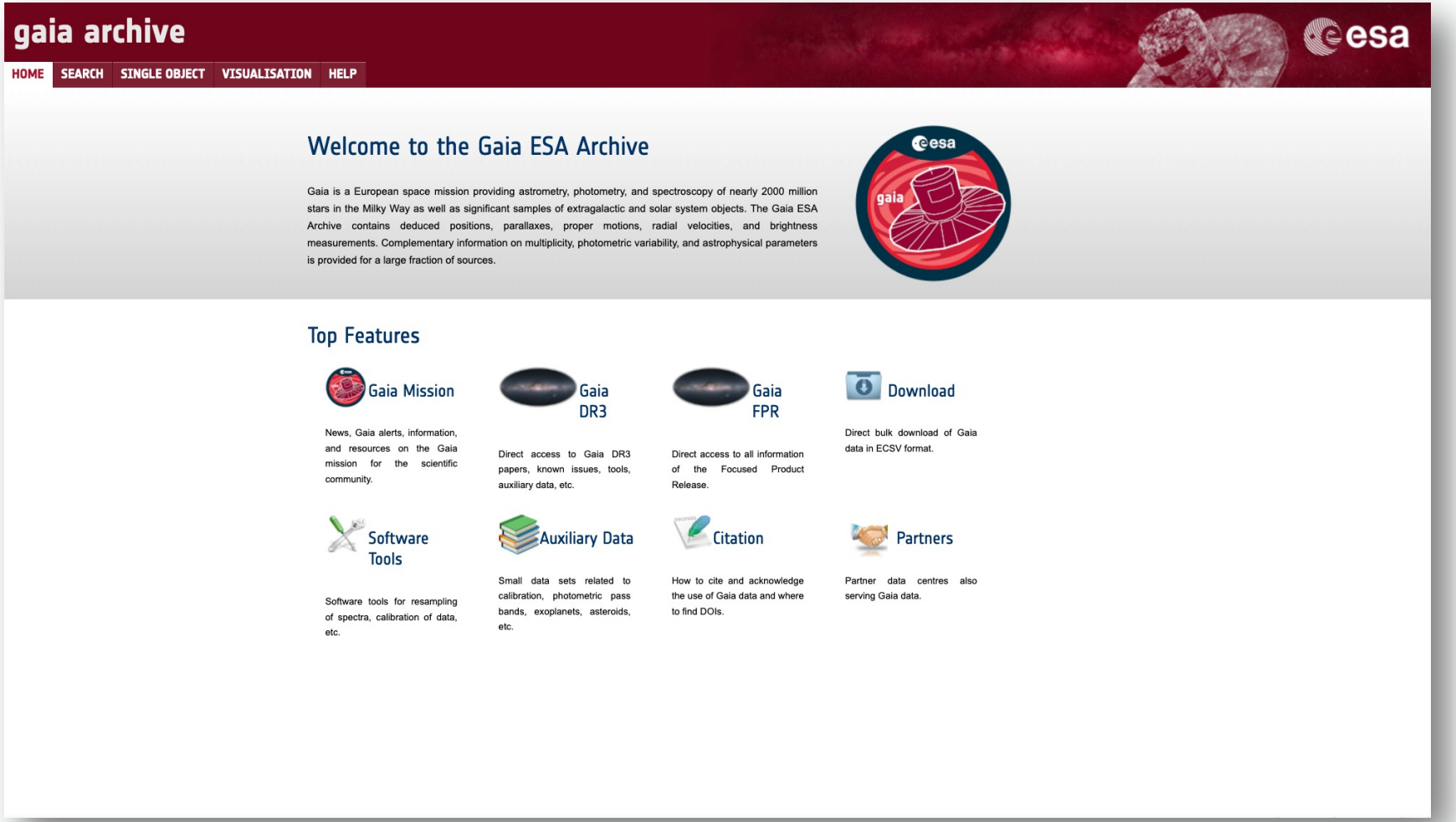
A fully functional ESASky is used to overlay the footprints from the observations in the results table

European Hubble Science Archive



Gaia Science Archive

ESASky has been integrated in the Single Object tool to provide context



Gaia Science Archive

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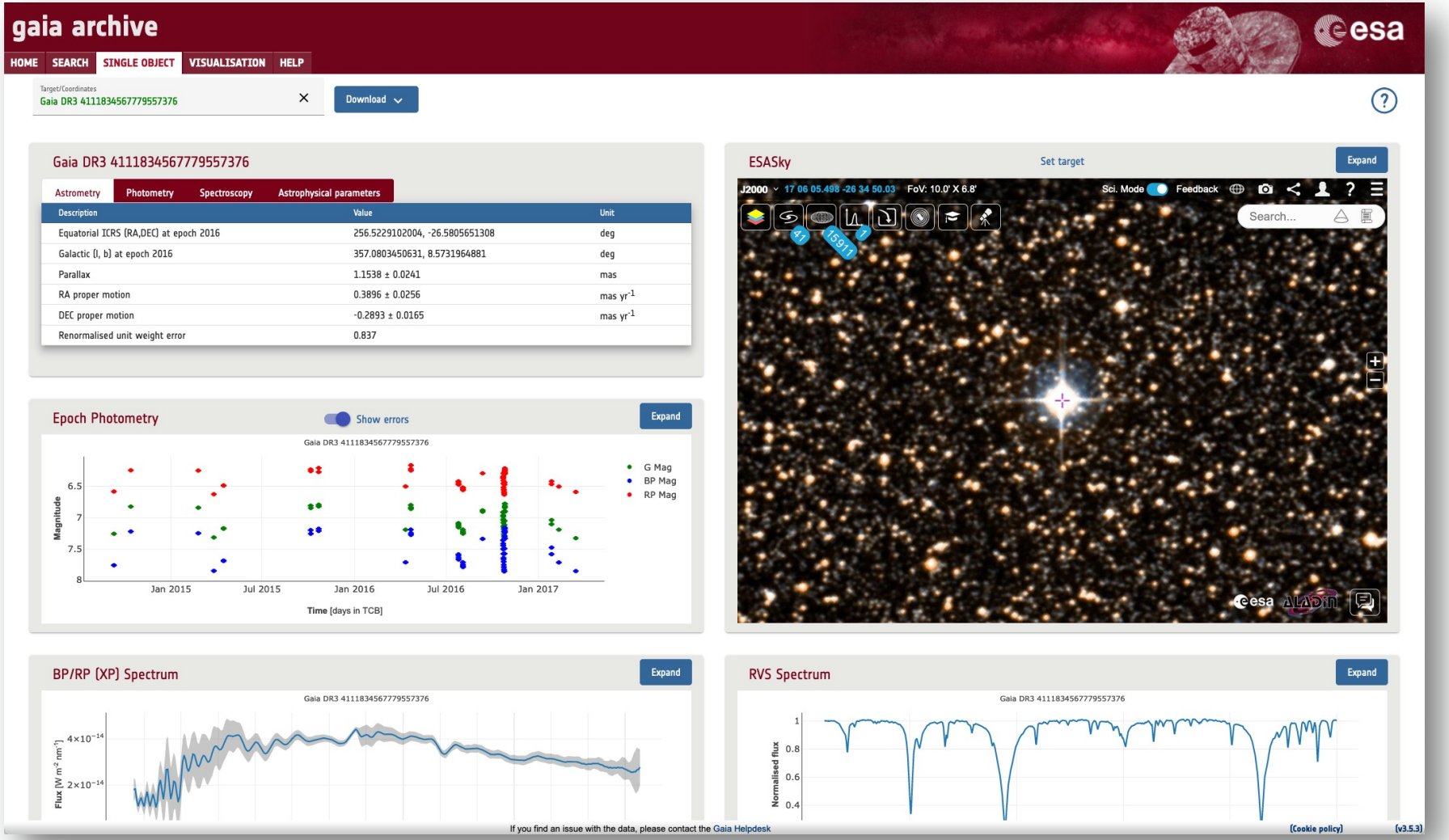
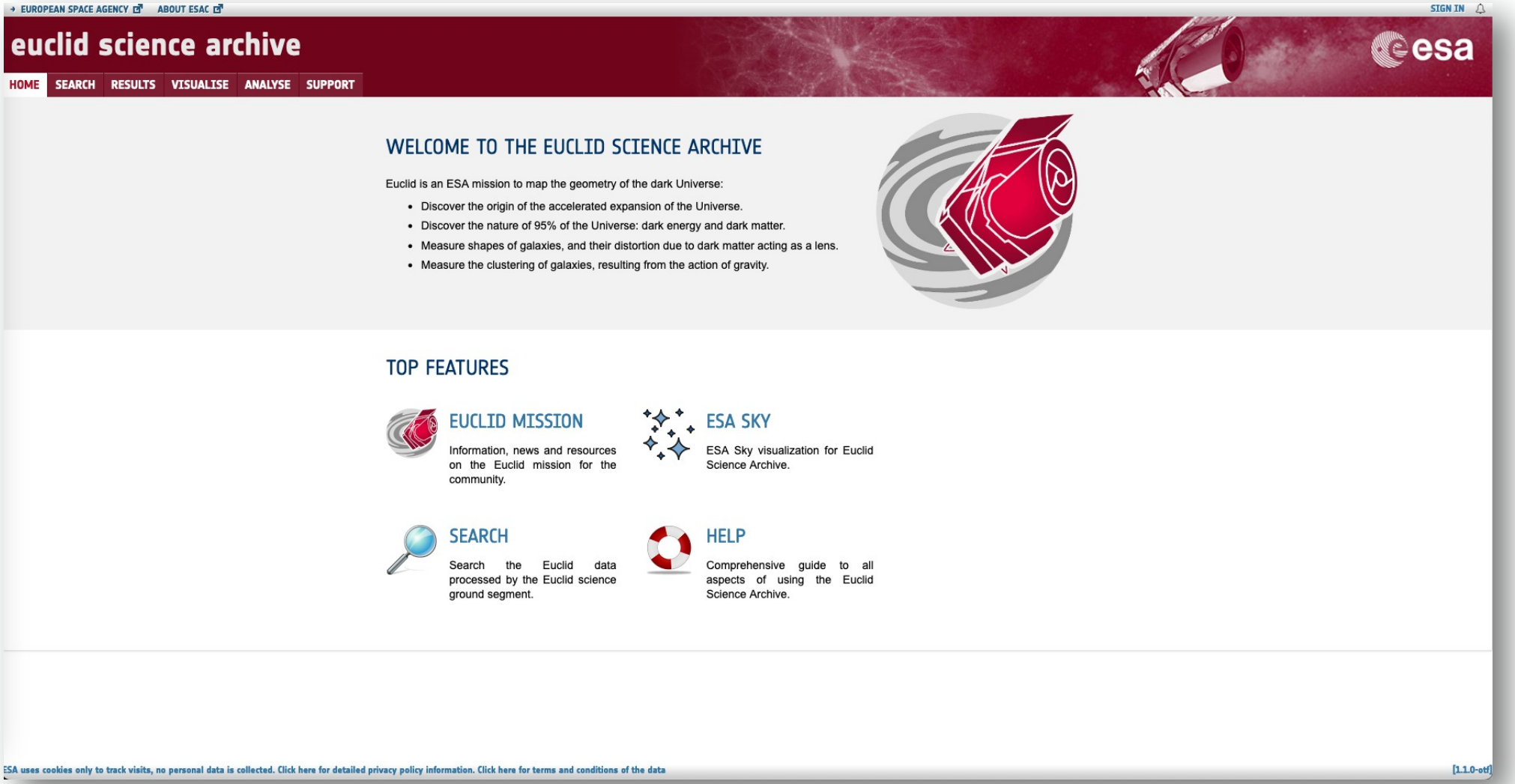


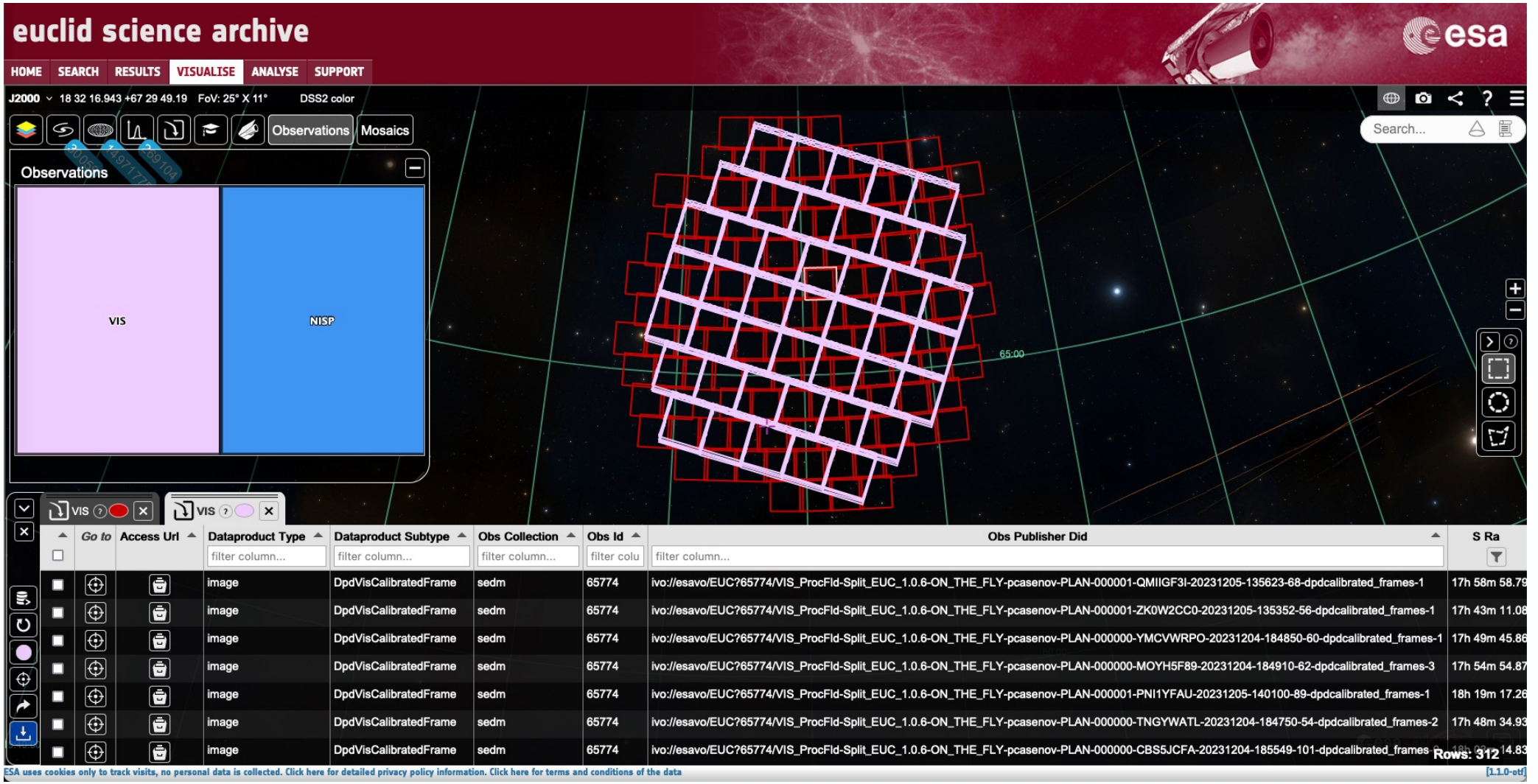
Euclid Science Archive System

ESASky was added with a customization layer to facilitate the discovery of Euclid data



Euclid Science Archive

ESASky was added with a customization layer to facilitate the discovery of Euclid data



Summary and Future plans

ESASky is a data discovery tool based on VO protocols developed by the ESAC Science Data Centre

It has an extended API that allows other ESA archives as well as external parties to integrate it in their user interfaces to show data already available from ESASky or other data sets.

Several ESA Archives are using ESASky in their user interfaces taking advantage of the extended customization capabilities and more archives will integrate it in the future. ESASky will update to AladinLite3 this summer, which will allow for further improvements in other areas like preview visualization.

The ESASky team always welcomes feedback and suggestions on how to improve the application and its API capabilities, so if you have specific requests do not hesitate to contact the ESASky team.

THANKS!!