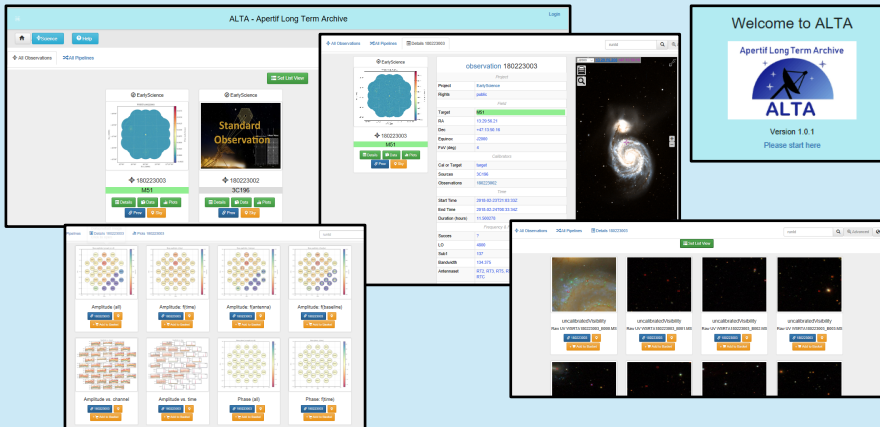# The APERTIF Long Term Archive

Hanno Holties, Nico Vermaas, Roy de Goei
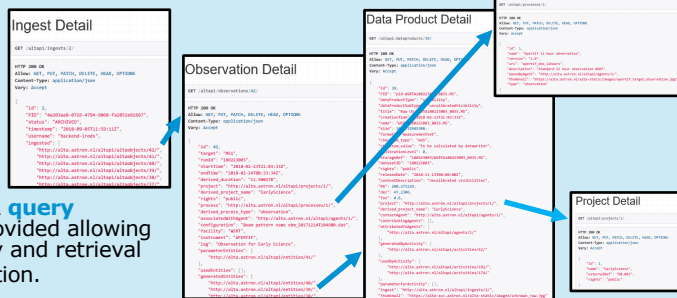
ASTRON

www.astron.nl

Frontend – alta.astron.nl

The frontend provides science oriented **views** on the data. Overviews are provided for observations and for processed higher level data products. For each observation it is possible to drill down to detailed information such as available **metadata**, **quality** information, and to a selection page for data **retrieval**. Special views for products related through **provenance chain**.

REST interface

All **CRUD** interactions with the database are handled via the **REST** interface.

Object details are exposed including relations to other objects. A **query mechanism** is provided allowing for quick discovery and retrieval of related information.

Architecture

ALTA builds on **iRODS** to provide automated policy based datamanagement, a **Django** managed Postgres database serving metadata through a **REST** API, and a **ReactJS** javascript user frontend.

Storage is provided by disk based online resources hosted by **ASTRON** in Dwingeloo and a tape based archival storage resource hosted by **SURFsara** in Amsterdam connected through WAN and managed as iRODS storage resources.

ALTA Key Facts

- 1.5 PB online storage; designed to host 20 PB+ on archival storage
- Designed for 4 PB growth per year
- 4 data servers each 400+ GB
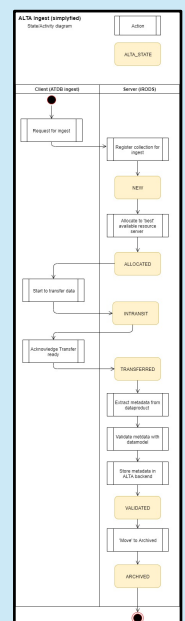- Supporting external automated data processing workflows

Ingest

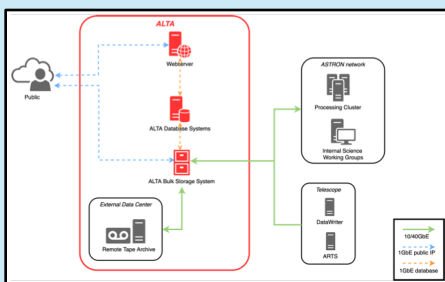As part of the data ingest into ALTA, data products are parsed for relevant metadata.

The extracted **metadata** is transformed into an XML document that complies to the **ALTA datamodel** schema.

The metadata is uploaded to ALTA and the information is incorporated into the ALTA **database**.

Ingest handles data + metadata updates as a single **transaction**.

ASTRON is part of the Netherlands Organisation for Scientific Research

ASTRON — Netherlands Institute for Radio Astronomy

NWO — Netherlands Organisation for Scientific Research