Cube access in the VO: DAL protocols and cut-outs prototypes

F.Bonnarel, CDS
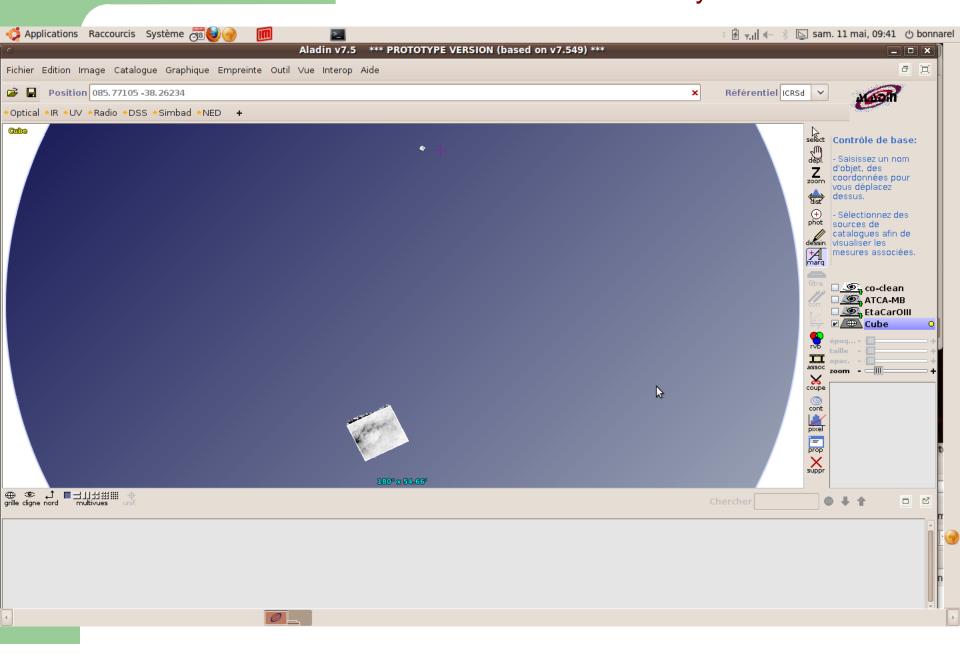
Data Cube general context

- Large Radio survey projects : ALMA, LOFAR, SKA, etc ...

- IVOA Comitee of science priorities : Radio Cube on the top of the list

- CDS (FB) announced this in last CosaDie technical meeting (January 2013/ Edinburgh)

- VAO Cube white paper published before May Interop

- Focuss session at May interop and panel discussion

    – Discussion
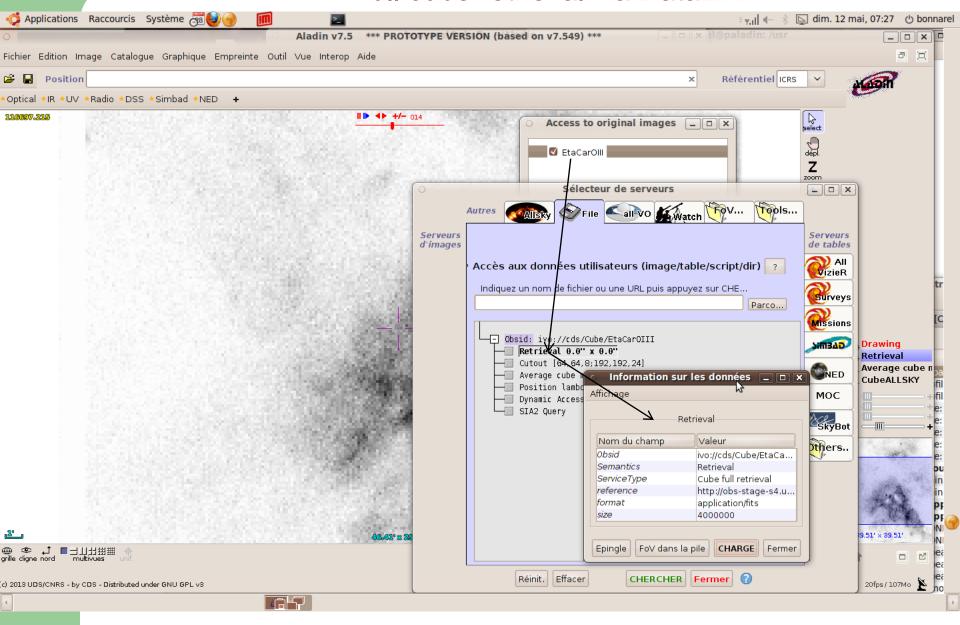
    – Access data CDS prototype

Cube Access Prototype for VO Cube

- CDS prototypes:
  - HEALPIX discovery mode+ DataLink and simple SIA2 service

- SIA2 Cube AccesData covers these tasks:
  - Cut-out : pixels or world coordinates
  - Average maps
  - Position/spectral maps
  - Spectrum extraction
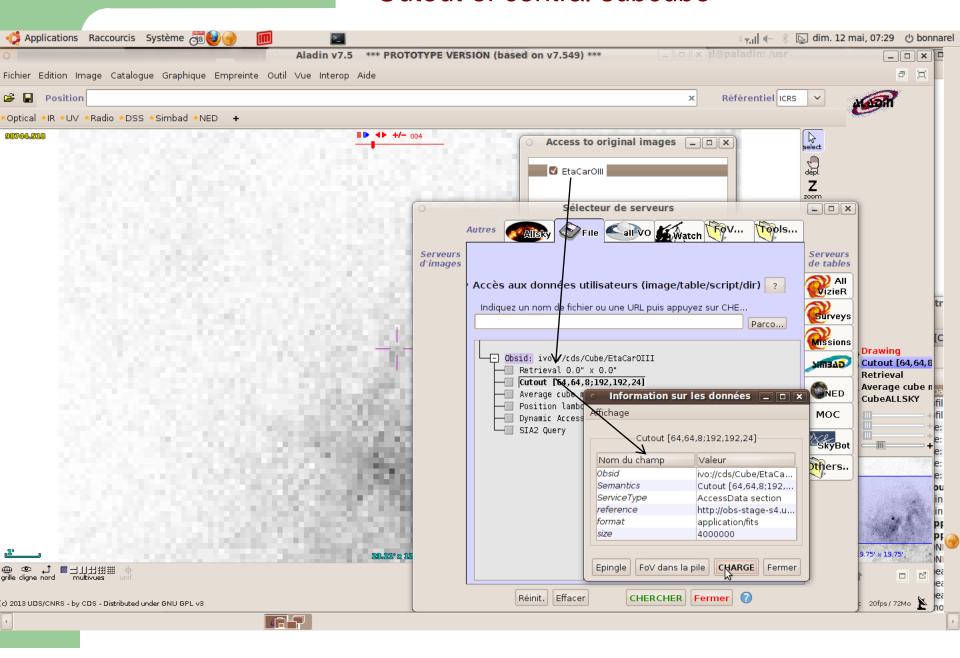 - Regridding through output WCS

HEALPIX Cubes discovery
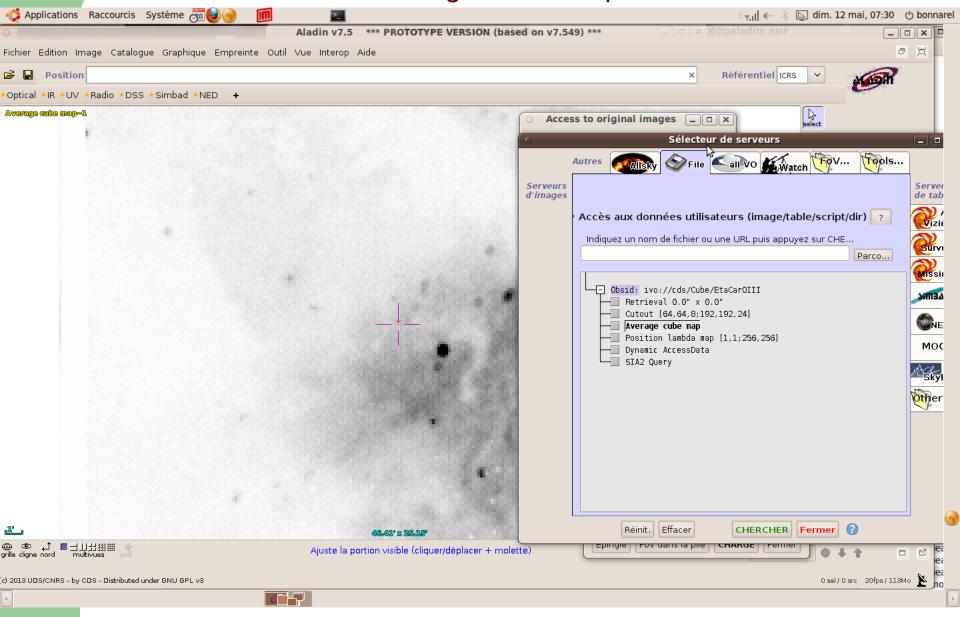
Full cube retrieval via DataLink

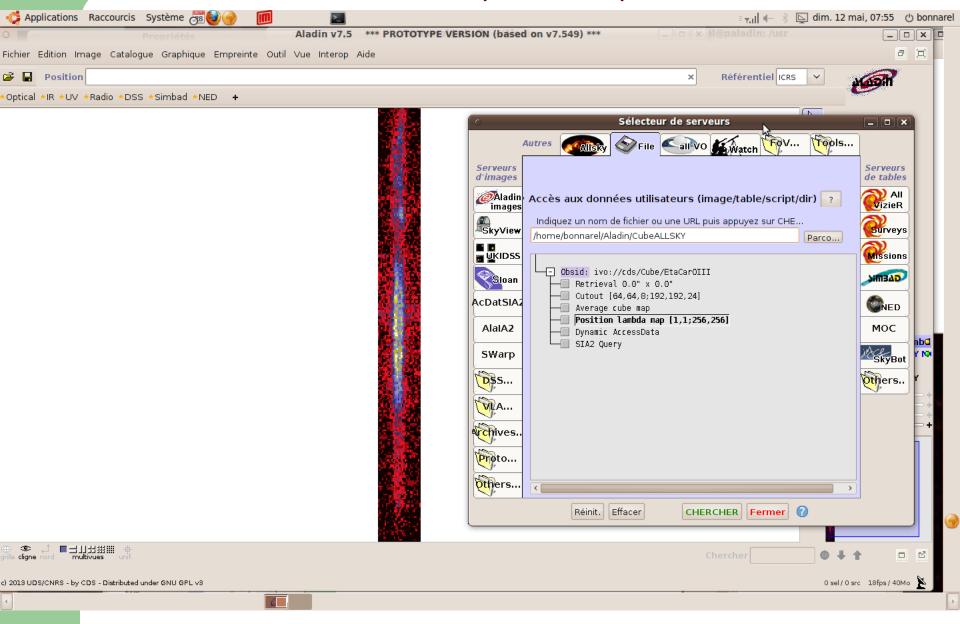# Cutout of central subcube

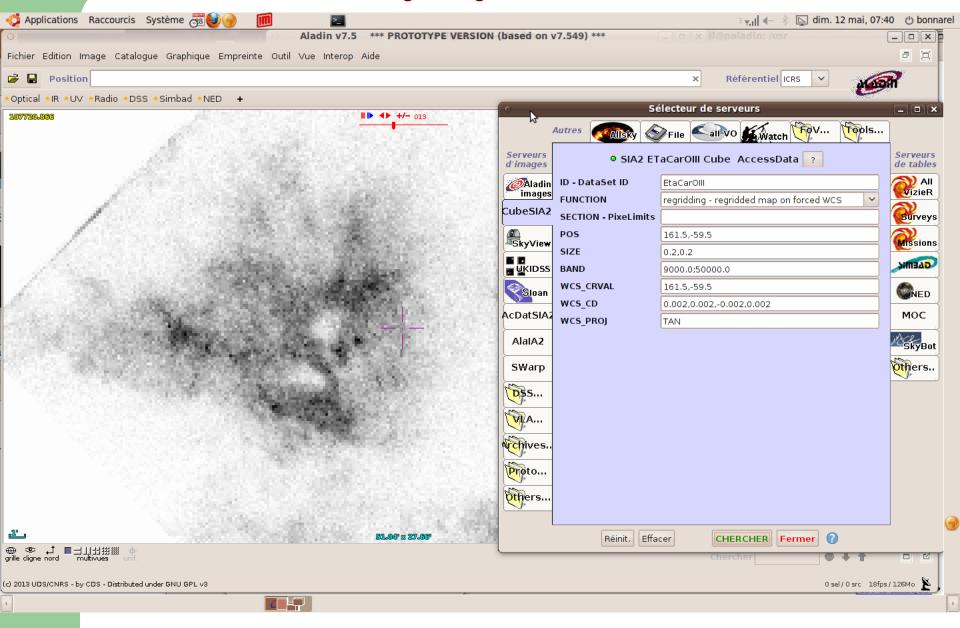# Average Cube map
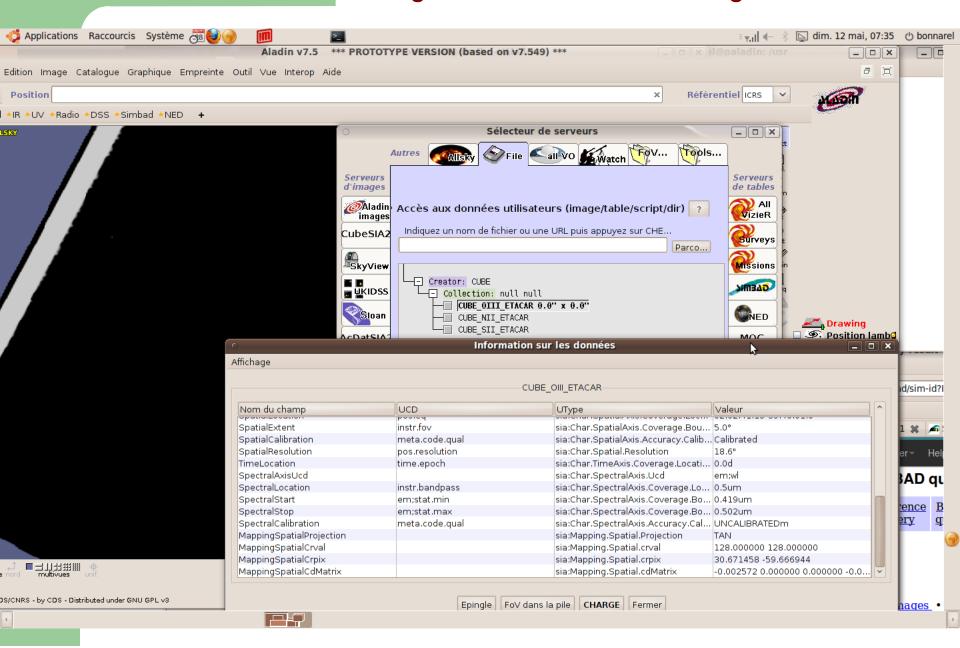
Position spectral Map

Regridding of the whole cube

ImageDM metadata browsing

Time Series / IVOA priority

- Same priority context
- No CDS (and no european ?) participation
- Panel discussion in Heidelberg
- TimeDomain Interest Group in Charge (Matthew Graham, chair)

Scheduling / Tasks to achieve

- Modelisation : ImageDM (see Mireille's talk)

- Discovery/description : ObsTap service or specialized SIA2 service

- Cutout/AccessData : prototyping of Cube Cutout services is a top priority

- Use of Datalink

Current Work

- Services: Cutout (= accessData)

  - IVOA prototypes to be presented in Hawaï. Cutout query expressed via STC-S.

  - CDS: prototype on Bodega collection . Khalifa if possible. Adaptation for STC-S syntax

- Drafts:

  - ImageDM draft: currently circulating between six authors.

  - SIA2 draft : Should be a light document pointing towards DALI, DataLink, ImageDM → draft circulating between authors/ DaI chairs

Issues / discussed topics

- CUTOUT syntax (and query syntax)
- Non-availability of large cubes for prototypes
- DataLink draft delay
- Long term SIA2/ObsTAP discussion:
    - Virtual and archived data versus archived-only data
    - Simple service versus full TAP service