The Processing and Archiving Unit of the Javalambre Astrophysical Observatory.

A. Ederoclite

CEFCA
Expected Beginning: 2015
Expected Duration: 5 – 7 years
The Javalambre Astrophysical Observatory (OAJ)
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The JST/T250 ⇒ J-PAS

14 9.2k×9.2k CCDs ⇒ 180.3 MB (2.5 GB per exposure)
The JAST/T80 ⇒ J-PLUS

$10k \times 10k$ CCDs ⇒ 236.5 MB
The OAJ/CPD

- **T80**
- **T250**
- **OAJ Core**
- **OAJ Firewall**

**CPD**

- **Access Switch**
- **Services**
- **CPD I/O**
- **CPD CPU**
- **CPD Disk**
  - **100 TB**
- **Tape**
The Data Transfer

~12 GB/h

70–130 GB/h

23 GHz

6 GHz

CEFCA headquarters

Aragón Telecom

CEFCA

700 Mb/s

OAJ
The UPAD/T80

T80 Firewall

T80 Core

Access Switch

Services

I/O

T80 CPU

DB

T80 Disk
100 TB

Dev Services

Dev CPU

Dev DB / NAS

Dev Disk
14 TB
The UPAD
Data Volumes

<table>
<thead>
<tr>
<th></th>
<th>J-PLUS</th>
<th>J-PAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Images</td>
<td>(~40\ TB)</td>
<td>(~1.2\ PB)</td>
</tr>
<tr>
<td>Reduced Images</td>
<td>(~32\ TB)</td>
<td>(~760\ TB)</td>
</tr>
<tr>
<td>Final Catalog</td>
<td>2 TB</td>
<td>10 TB</td>
</tr>
</tbody>
</table>

We want to keep at least DR\(_n\) and DR\(_{n-1}\)

* We expect some \(1 \times 10^8\) galaxies with 0.3\% photo-z (and \(3 \times 10^8\) with 1\% photo-z). For each record, we expect about 60 fields (trick: some fields are arrays which have 56 values).
The External Access

"DMZ" \sim external data access zone
Providing images in a "DSS" way: possibility to define position and size.

Provide "data-cubes" and/or tiles ($\sim 30 \times 30\text{arcmin}^2$).

Example of the ALHAMBRA survey (figure from Molino et al. *in prep.*)
Accessing Catalogs

<table>
<thead>
<tr>
<th>Position</th>
<th>X_IMAGE, Y_IMAGE, ALPHA_2000, DELTA_2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluxes (and errors)</td>
<td>MAG_APER, MAG_ISO, MAG_AUTO,</td>
</tr>
<tr>
<td>Shape</td>
<td>KRON_RADIUS, PETRO_RADIUS, R_EFF,</td>
</tr>
<tr>
<td></td>
<td>FWHM_WORLD, A_WORLD, B_WORLD, THETA_J2000</td>
</tr>
<tr>
<td>Other</td>
<td>CLASS_STAR, FLUX_MAX, MU_MAX, BACKGROUND,</td>
</tr>
<tr>
<td></td>
<td>THRESHOLD, FLAG</td>
</tr>
</tbody>
</table>

*Dual mode* and Single mode.

J-PAS: photo-z

J-PLUS: log g, Z, Teff

Variable sources (~ 200 new variable candidates per night).
VO-compliancy has been a requirement since the beginning of the project. The database is being designed to be VO-compliant. Basic services already implemented (cone search and TAP access). ADQL queries.
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▶ How to Publish to the VO. [Marco Molinaro] ⇒ Right, how?
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Danke!