

ESO/CDS instrument footprint format

F.Pierfederici, F.Bonnarel, T.Boch,
M.Dolensky, P.Fernique, J.C.Malapert
(CDS, CADC)

Thomas Boch's demo



Aladin v3.6 multiview *** PROTOTYPE VERSION (based on v3.624) ***

Load... Save... Tools... Interop... Print... Help... Quit

Position J2000 Pixel 8 bits 023 / 255

Lw-SERC.J.DSS1,444-L0W

select, dist, draw, tag, text, filter, rgb, assoc, rsamp, cont, zoom, mglas, pixel, prop, del

m83

FOV

- PI-ESO.R.MA
- AAO.R.DSS2
- Lw-SERC.J.D
- SERC.J.DSS1
- http..vizier.u

1' 28.39' x 28.33'

1.66" x 1.66"

Zoom 2x

multiview

(c)1999-2006 ULP/CNRS - Centre de Données astronomiques de Strasbourg

6 planes, 1 view, 6Mb

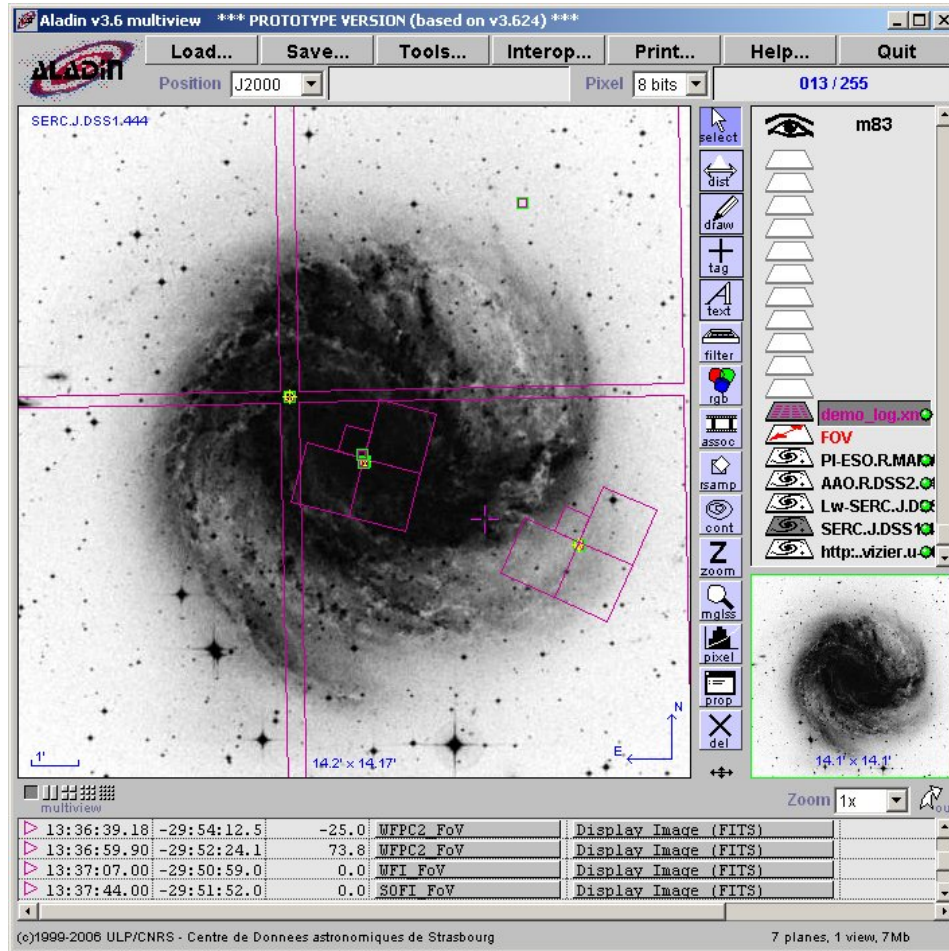
FOV attached to a dataset catalog

Aladin v3.6 multiview *** PROTOTYPE VERSION (based on v3.624) ***

Load... Save... Tools... Interop... Print... Help... Quit

Position J2000 Pixel 8 bits 013 / 255

SERC.J.DSS1.444



| | | | | | |
|---|-------------|-------------|-------|-----------|----------------------|
| ▶ | 13:36:39.18 | -29:54:12.5 | -25.0 | WFPC2 FoV | Display Image (FITS) |
| ▶ | 13:36:59.90 | -29:52:24.1 | 73.8 | WFPC2 FoV | Display Image (FITS) |
| ▶ | 13:37:07.00 | -29:50:59.0 | 0.0 | WFI FoV | Display Image (FITS) |
| ▶ | 13:37:44.00 | -29:51:52.0 | 0.0 | SOFI FoV | Display Image (FITS) |

(c)1999-2006 ULP/CNRS - Centre de Données astronomiques de Strasbourg 7 planes, 1 view, 7Mb

How to describe FOV for VO clients



- 2 Vo choices for this prototype:
 - VOTABLE (for light parsing in Aladin)
 - Regions are described in compatibility with STC, by utypes.
- Two parts in the description:
 - The FOV instrumental plane (by Coordinate system)
 - The Instruments contours
- Adapted to independant descriptions or attached to Observation logs or SIA Query response (in Extensions) records
- Additional rendering information was developped, not described here

Small user's guide A

- We will describe here an independant FOV , which is made of 2 boxes
- Initialization of the RESOURCE for the FOV description using a RESOURCE with the utype dal:fov

```
<RESOURCE ID="FakeInstrFoV" name ="Fake Instrument Field of View" utype="dal:fov" >
```

```
<DESCRIPTION>Ficticious FoV made up of a two identical rectangle"s separated by 5 arcsec. Each rectangle has dimensions 2' x 5'.
```

```
</DESCRIPTION>
```

Small user's guide B

- 1st step: Definition of the FOV plane, a CARTESIAN flavor for the Coordinate system (projected plane):

<!-- These five records define the Field of View Coordinate system frame, flavor, offset center and PA -->

```
<PARAM name="FOV Coord Frame" datatype="char"  
utype="stc:AstroCoordSys.SpaceFrame.SpaceRefFrame"  
value="J2000.0"/>
```

```
<PARAM name="FOV Coord Flavor" datatype="char"  
utype="stc:AstroCoordSys.SpaceFrame.CoordFlavor"  
value="CARTESIAN"/>
```

Small user's guide C

```
<PARAM name="RA" ucd="pos.eq.ra;meta.main" ref="J2000" datatype="char"
  arraysize="11"
  unit=""h:m:s""
  utype="stc:AstroCoordSys.SpaceFrame.OffsetCenter.C1"/>
<PARAM name="DEC" ucd="pos.eq.dec;meta.main" ref="J2000"
  datatype="char" arraysize="11"
  unit=""d:m:s"" utype="stc:AstroCoordSys.SpaceFrame.OffsetCenter.C2
  >>/>
<PARAM name="PA" ucd="pos.posAng" datatype="float" unit="deg"
  utype="stc:AstroCoordSys.SpaceFrame.PositionAngle« />
```

- Parameter to describe the projection

```
<PARAM name=« projection » utype=« dal:fov.projection » value=« TAN » />
```

Small user's guide D

- 2nd step : we will now describe the instrument contours:
- The following table describes the first Box in the FOV plane

```
<TABLE ID="fovT1" name="Field of View 1 part" >
```

- Here we define the REgion type as a box

```
<PARAM name="Region" value="Box"  
  utype="char:SpatialAxis.coverage.support.AreaType" />
```

```
<!-- The AstroCoord sys definition allows to define a box with  
sides parallel -->
```

```
<!-- to the "tilted" axes of the system -->
```


Small user's guide E

- In the four params we define the X and Y offset and size of our rectangular box

```

<PARAM ID="CRO" name="CenterRAOffset" datatype="float" unit="arcsec"
      utype="stc:AstroCoordArea.Region.reg:Box.Center.C1" value="-
62.5"/>
<PARAM ID="CDO" name="CenterDecOffset" datatype="float"
      unit="arcsec"
      utype="stc:AstroCoordArea.Region.reg:Box.Center.C2" value="0.0" />
<PARAM ID="SizRA" name="SizeRA" datatype="float" unit="arcsec"
      utype="stc:AstroCoordArea.Region.reg:Box.Size" value="120.0"/>
<PARAM ID="SizDE" name="SizeDE" datatype="float" unit="arcsec"
      utype="stc:AstroCoordArea.Region.reg:Box.Size" value="300.0"/>
</TABLE>

```

Small user's guide F

- The following lines define a second box in the same FOV

```

<TABLE ID="fovT2" name="Field of View 2 part">
  <PARAM name="Region" value="Box"
    utype="char:SpatialAxis.coverage.support.AreaType"/>
  <PARAM ID="CRO" name="CenterRAOffset" datatype="float" unit="arcsec"
    utype="stc:AstroCoordArea.Region.reg.Box.Center.C1" value="62.5"/>
  <PARAM ID="CDO" name="CenterDecOffset" datatype="float"
    unit="arcsec"
    utype="stc:AstroCoordArea.Region.reg.Box.Center.C2" value="0.0" />
  <PARAM ID="SizRA" name="SizeRA" datatype="float" unit="arcsec"
    utype="stc:AstroCoordArea.Region.reg.Box.Size" value="120.0"/>
  <PARAM ID="SizDE" name="SizeDE" datatype="float" unit="arcsec"
    utype="stc:AstroCoordArea.Region.reg.Box.Size" value="300.0"/>
</TABLE>

```

And:

- Polygons, Circular regions and Pickles can Also be described
- IVOA note in preparation
- Used for ESO Archive, Aladin server
And the APT. Maybe at CFH, ansd ?

Acknowledgments

- Thanks to:
 - T.Donaldson (STScI) and staff for commenting and using it in APT.
 - Alberto Micol and ECF staff for testing and commenting it.