The CoRoT archive.
Implementation of the Time Series DM.

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Time Series at SVO

- SVO was the first time series provider in the VO.

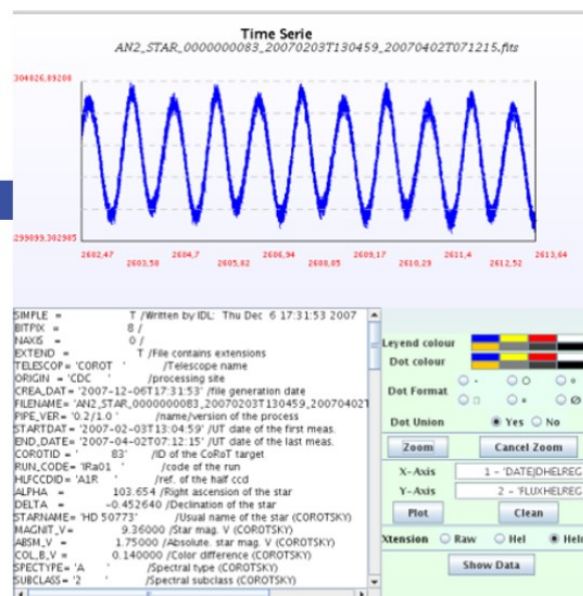- Two services registered as SSAP:

  - CoRoT and OMC

Time Series at SVO

- Available at: **http://sdc.cab.inta-csic.es/corotfa/** since February 2009.

- More than 150.000 light curves.

Time Series at SVO
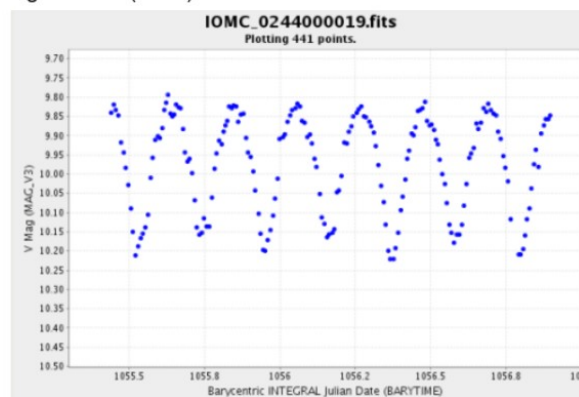
- **OMC**: Available at **http://sdc.cab.inta-csic.es/omc/** since 2003.

- More than 86.000 light curves with more than 50 photometric points.

Time Series at IVOA

- Time Series identified by IVOA as a *Science Priority*.

- SVO, in its double role of data provider and IVOA member, made in 2012 an assessment on the existing limitations to discover, access and describe time series in the VO:

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Data discovery	•Registry
Data access	•SSAP •IVOA note on 'Time Series Data' (Dec 2010) •ConeSearch •TAP
Data model	•SDM 1.1 •SDM 2.0 •IVOA note on 'Time Series Data' (Dec 2010) •DotAstro SimpleTimeseries

Time Series in CoRoT

Current Time Series model based on **SSAP** for CoRoT:

Time Series in CoRoT

Current Time Series model based on **SSAP** for CoRoT:


```
-<FIELD ID="AcRef" name="AcRef" utype="ssa:Access.Reference" ucd="meta.ref.url" data
    <DESCRIPTION> URL used to access dataset. </DESCRIPTION>
</FIELD>
-<FIELD ID="Format" name="Format" utype="ssa:Access.Format" datatype="char" arrays
    <DESCRIPTION> Content or MIME type of dataset. </DESCRIPTION>
</FIELD>
-<FIELD ID="Title" name="Title" utype="ssa:DataID.Title" ucd="meta.title;meta.dataset"
    <DESCRIPTION> Dataset Title. </DESCRIPTION>
</FIELD>
-<FIELD ID="TimeAxis" name="TimeAxis" utype="ssa:Dataset.TimeAxis" datatype="char"
    <DESCRIPTION> Table column containing time values </DESCRIPTION>
</FIELD>
-<FIELD ID="FluxAxis" name="FluxAxis" utype="ssa:Dataset.FluxAxis" datatype="char" ar
    <DESCRIPTION> Table column containing flux values </DESCRIPTION>
</FIELD>
            -<DATA>
              -<TABLEDATA>
                -<TR>
                  -<TD>
                    http://sdc.cab.inta-csic.es:80/corotfa/gateway?type=SSAP&runcode=LRa01&corotid=20
                  </TD>
                  <TD>timeseries/fits</TD>
                  <TD> CoRoT light curve. COROT_ID: 20</TD>
                  <TD>DATEJDHELREG</TD>
                  <TD>FLUXHELREG</TD>
                  <TD>LRa01</TD>
```
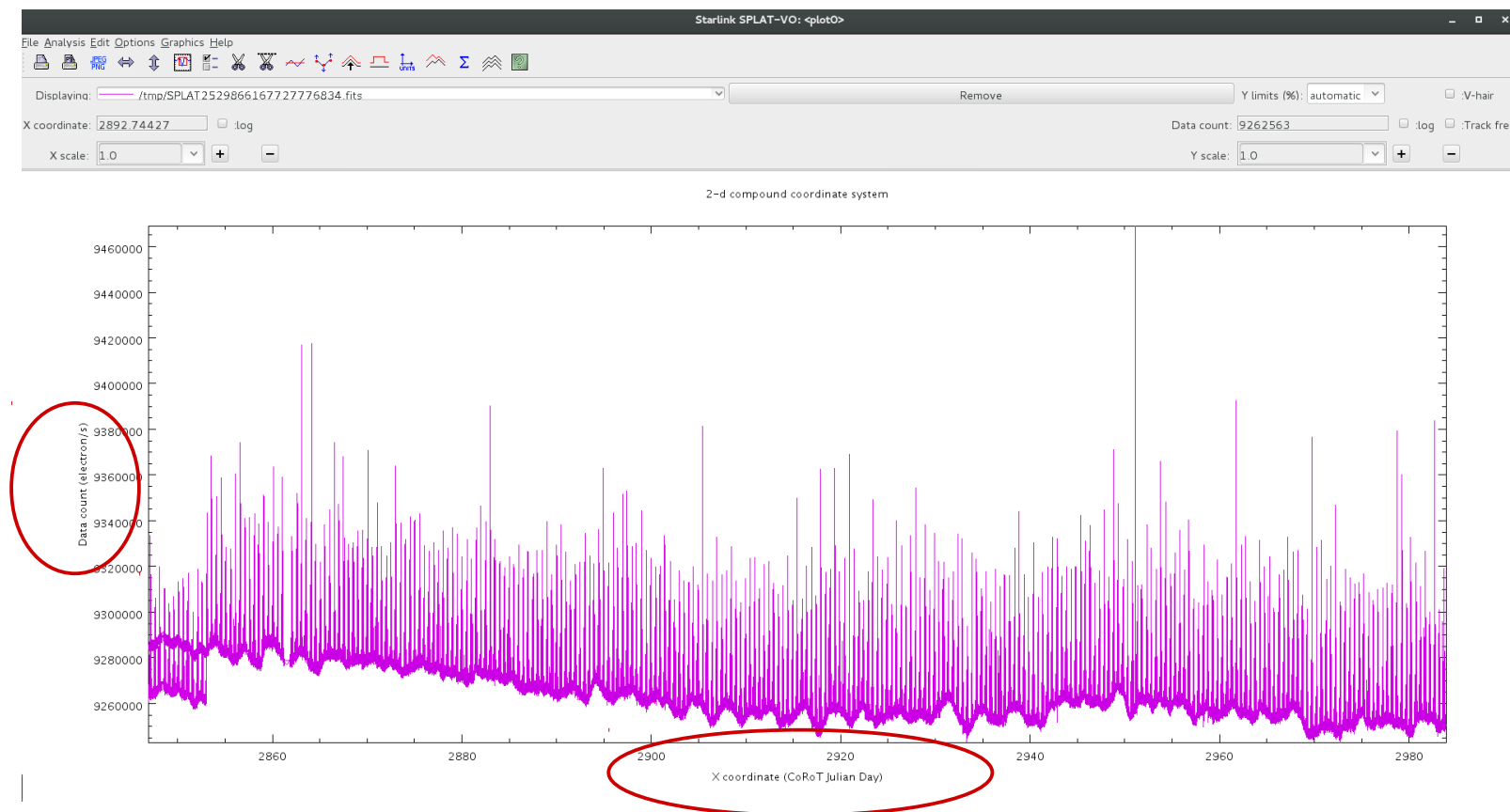
Time Serie
AN2_STAR_0000000083_20070203T130459_20070402T071215.fits

Data in FITS format

Analysis of VO-CoRoT light curves

CoRoT light curves described with the Spectral Data Model can be managed with VO tools like SPLAT.

Time Series Data Model in CoRoT

Data Model
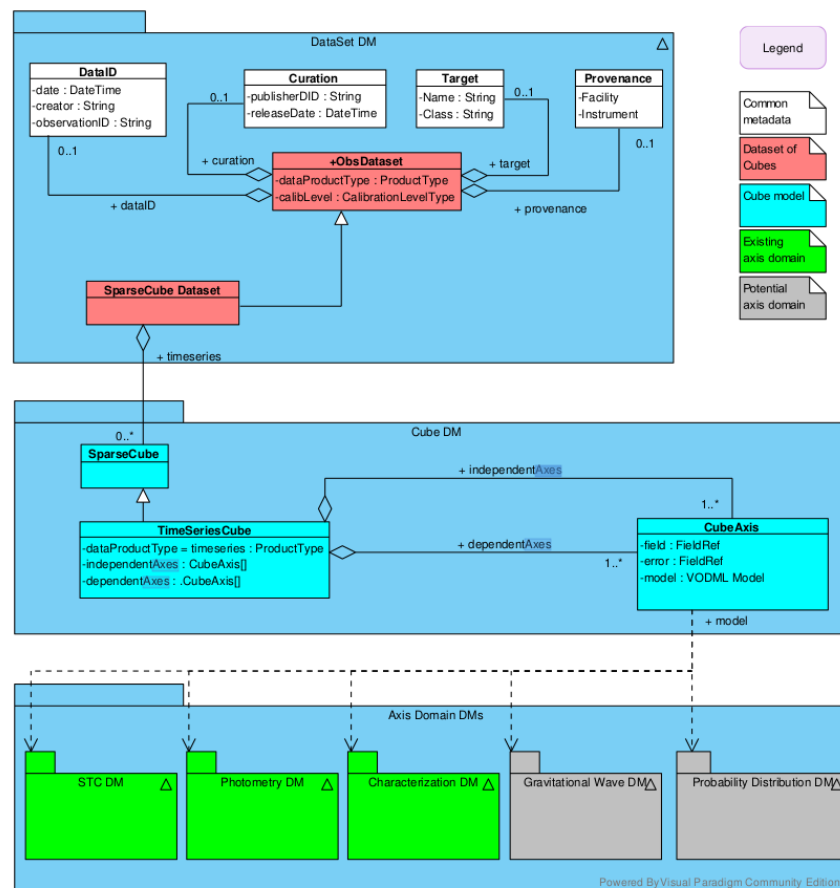
Time Series Data Model in CoRoT

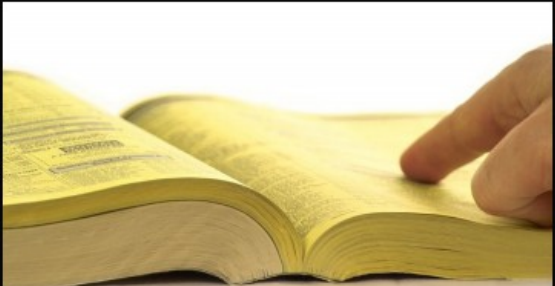Implementation of **Time Series DM** for CoRoT

Time Series Data Model in CoRoT

- ## New DM:

- Simple Light curve (CoRoT) : Not real difference with the new DM.

- Generic Time series / Group of light curves ¿?

Discovering Time Series in VO

- Time Series cannot be discovered at Registry level.

J. Manuel Alacid

Discovering Time Series in VO

· Time Series could be discovered using ObsCore / TAP .

Observation Data Model Core Components and its Implementation in the Table Access Protocol

International Virtual Observatory Alliance

A.4. Discovering time series

A.4.1. Use case 4.1

*Times series for a sky position, with date, length and exposure constraints*

Show me a list of all data which satisfies:

I. DataType=TimeSeries
II. RA includes 16.00 hours
III. DEC includes +41.00
IV. Time resolution better than 1 minute
V. Time interval (start of series to end of series) > 1 week
VI. Observation data before June 10, 2008
VII. Observation data after June 10, 2007

Discovering Time Series in VO

· Time Series could be discovered using ObsCore / TAP **BUT**...

Datatype not included in the Match Fields options of TOPCAT.
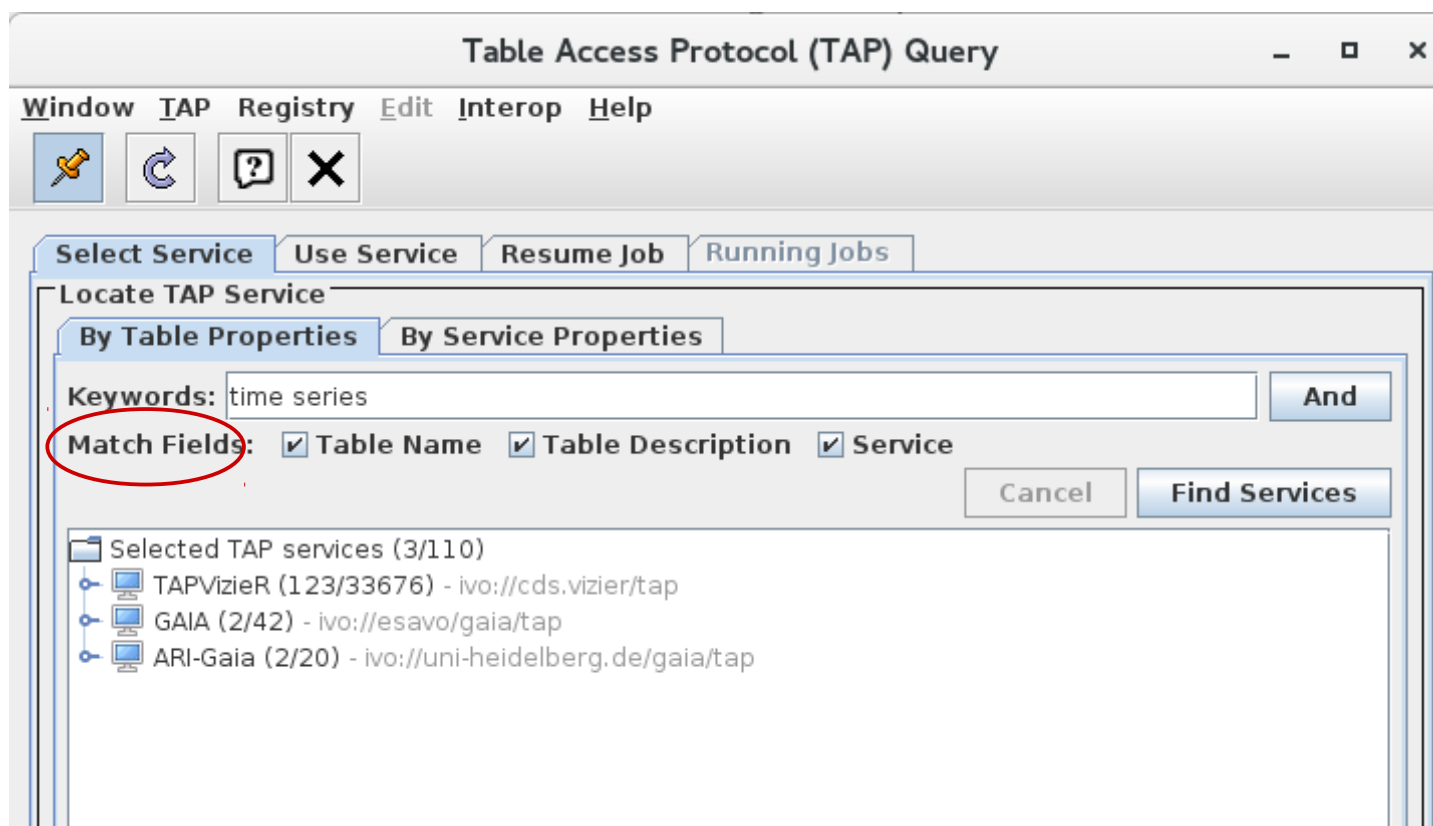
Analyzing Time Series in VO

VO Tools: Splat-VO

Include Time Series?

Time Series at SVO

Thanks!