



*Proposal for an automated and versatile  
statistical cross-identification tool*

- Source identification is needed:
  - In the ‘normal’ MXT and ECLAIRs pipelines
    - As added value product for the observer
    - To trigger alerts (discover new potentially interesting sources, detect states of known transients) if not done at QLA stage.
  - In ‘real time’, QLA and in the ‘interactive’ pipelines
    - To monitor astrometric accuracy
    - To trigger early alerts
    - To help Burst Advocates taking decisions



## *Proposal for an automated and versatile statistical cross-identification tool*

- Input data:
  - Based on VO data access tools for archival data (Table Access Protocol)
  - Local catalogues
  - With a pre-defined (but evolving) set of catalogues and services best suited for the identification of X-ray sources (e.g. Rosat, XMM, Chandra, eRosita, GALEX, Simbad, SDSS, 2MASS, ALLWISE, radio, Gamma, radio, etc...)
  - Making use of VT imaging when available (or of the source lists provided by the VT pipeline)
- Providing:
  - Distances to the SVOM source (in terms of sigma) and SEDs
  - Identification probability through Likelihood Ratios (archival cat entry densities)
  - With priors on object type and spectral energy distribution (in addition)



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- Implemented as:
  - a WEB service (working on a remote machine)
  - as a stand alone application (e.g. dedicated Aladin extension) on a local machine
  - Interfaced with CDS cross-match services (multi-catalogues statistical by ARCHES)
  - Using multi-wavelength imaging as a graphical identification helping tool

Background optical image

XMM image

Simbad entries

VO accessed catalogues

The identification Vela X-1 !

Position: 09:02:11.74 -40:33:09.4

Référentiel: ICRS

Contrôle de base:  
- Saisissez un nom d'objet, des coordonnées pour vous déplacez dessus.

VO accessed catalogues:  
SIMBAD  
SDSS9 colore  
XMM-Newton  
DSS colored

main id	ra	dec	errHalfMaj	errHalfMin	errPosAng	B	V
V* GP Vel	135.528585	-40.554695	0.004	0.003	90	7.370	6.870

CDS X-Match Service

X-match Tables management Documentation

Choose tables to cross-match

e.g. VII/260/dr7qso, or select in list  e.g. VII/233/xsc, or select in list

VizieR SIMBAD My store VizieR SIMBAD My store

Show options

Begin the X-Match



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- Many of the VO interfaced elementary tools already exist
- System should also be able to use 'local' catalogues
- Most important is to get the requirements right
- User friendly with simple interface
- Avoid building a complex Christmas tree !