

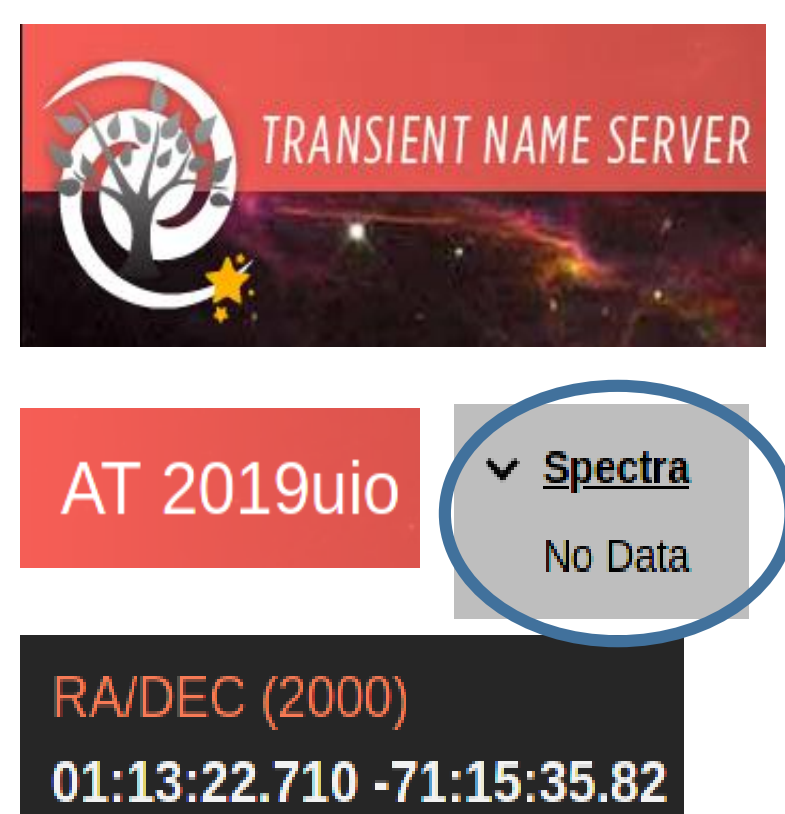
Transient characterization using the Virtual Observatory

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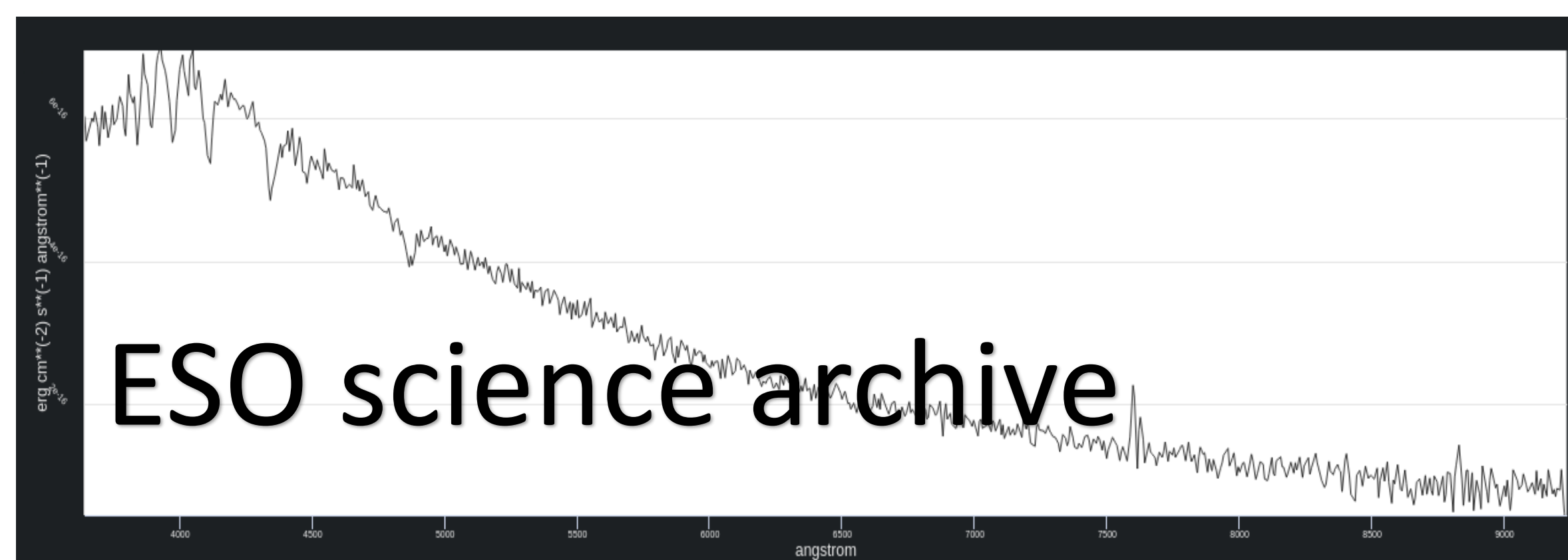


Introduction

- **Transients** can be defined as astrophysical phenomena whose duration is significantly shorter than the typical timescale of the stellar and galactic evolution. Supernovae, novae, gamma-ray burst,..., are some examples of transient events.
- Fast, multiwavelength **follow-up** observations are often required to properly understand the true nature of the transient.
- Looking for information in **astronomical archives** can be a complementary approach but, sometimes, these **searches are not conducted in an optimal way.**



BUT



Goal

- Use the opportunities the Virtual Observatory offers in terms of discovery, access and analysis of astronomical data to improve this approach.
- Build an automated workflow to validate and characterise candidate Cataclysmic Variables (CVs) identified among the Gaia Science Alerts.

Gaia Alerts Alerts Index All-Sky Alerts Search GaiaX GaiaX Test Surveys-ATels Tools Documentation About

Index to Gaia Photometric Alerts **23045 sources**

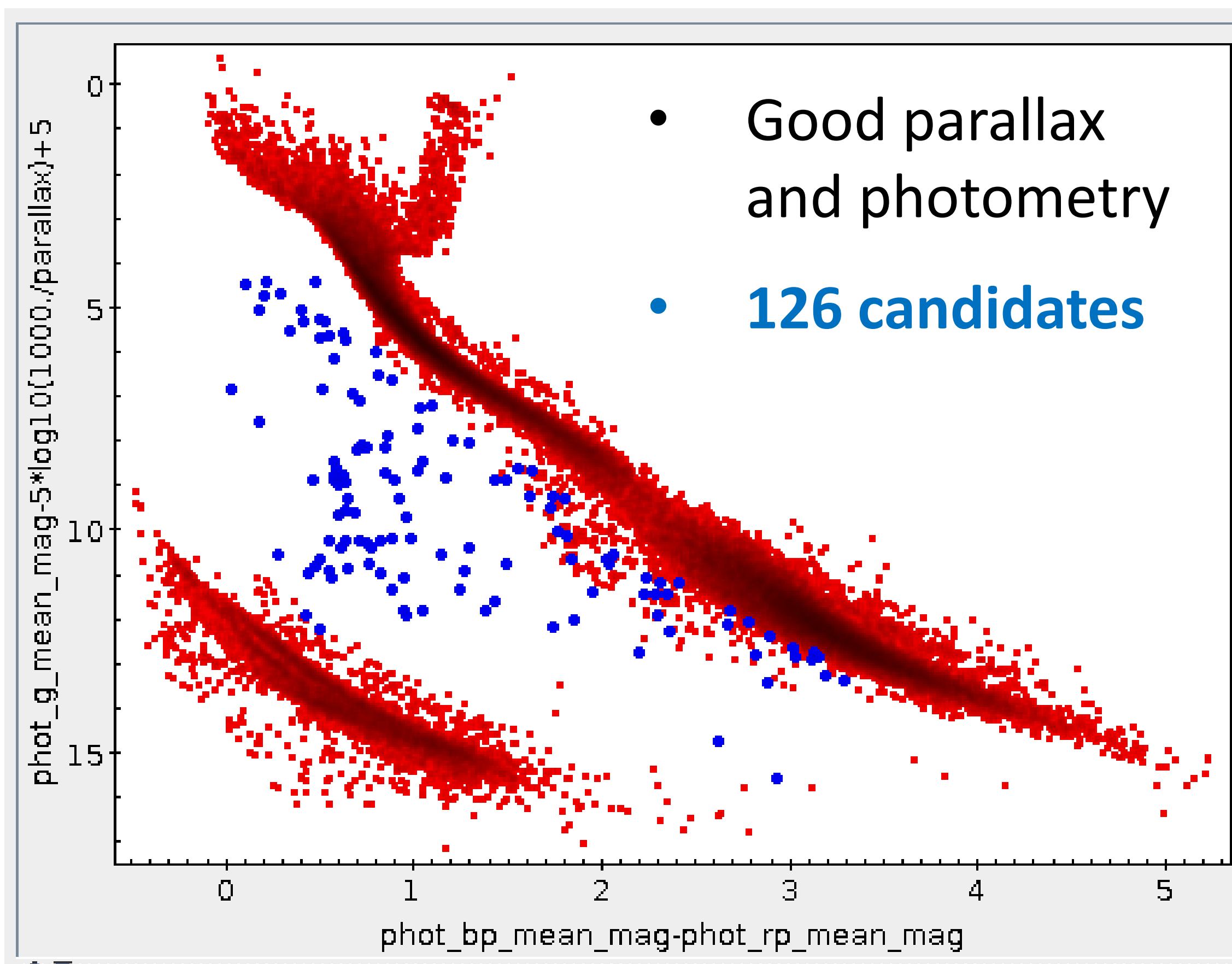
If you publish any results based on these Gaia discoveries, we would appreciate an acknowledgement along the lines of: "We acknowledge ESA Gaia, DPAC and the Team (<http://gsaweb.ast.cam.ac.uk/alerts>)"

These are all the alerts raised to date. You might wish to view or download these as a table in CSV or pipe-delimited formats or using the tools described in this page. See [here](#) for an explanation of the columns.

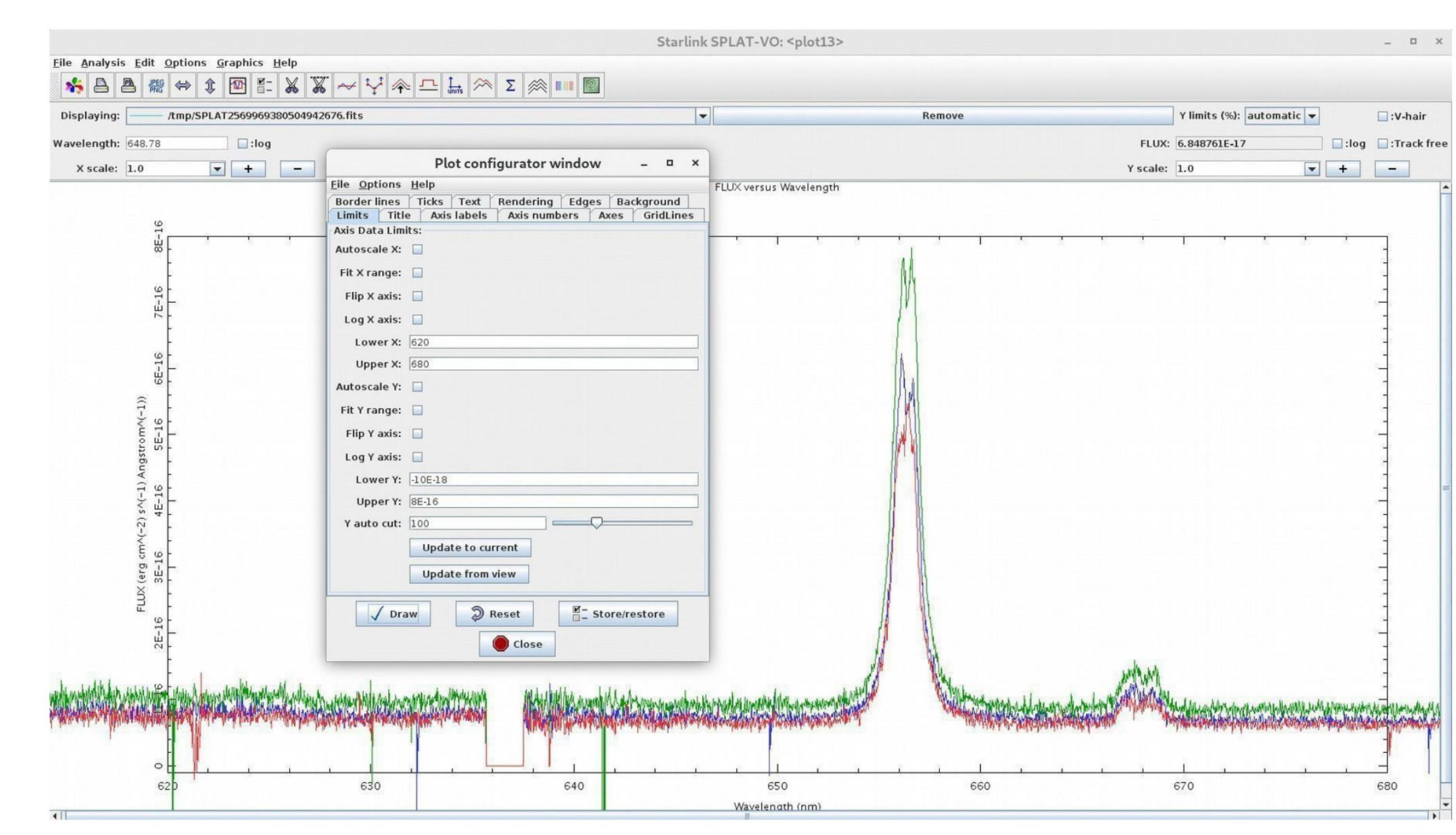
Show 10 entries

Name	TNS	Observed	RA (deg.)	Dec. (deg.)	Mag.	Historic mag.	Historic scatter	Class	Published	Comment
Gaia23bvz	AT2023iut	2023-05-02 03:14:14	48.82922	59.43751	19.46	18.01	0.23	unknown	2023-05-18 13:35:28	fading in candidate YSO
Gaia23bvz	AT2023iut	2023-04-28 12:24:15	225.92966	-60.24721	17.86	18.96	0.45	unknown	2023-05-18 13:30:02	brightening in erratic Gaia source

Step #1: Selection by position in the HR diagram

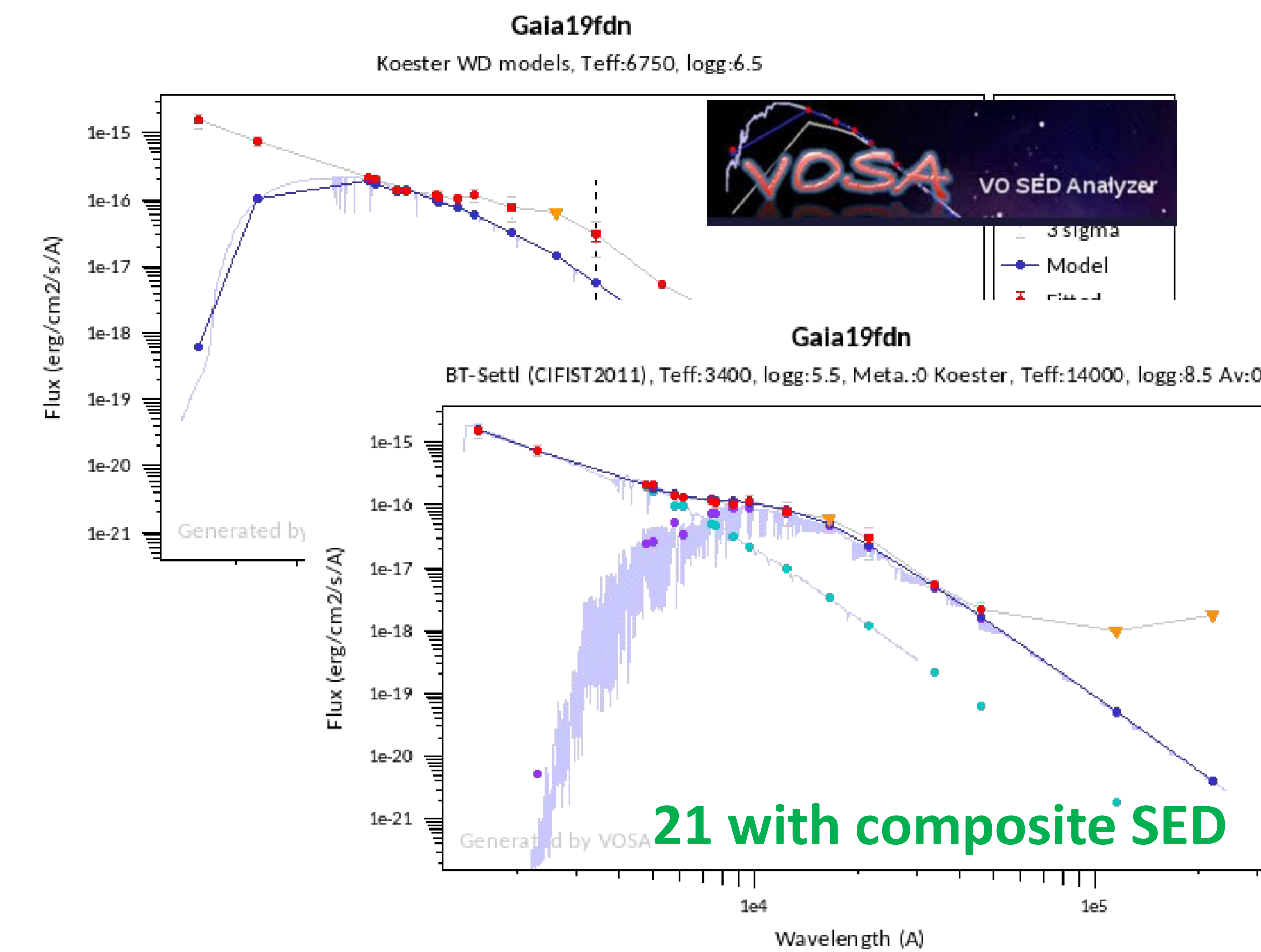


Step #2: Emission in Halpha



- Look for spectra in VO archives.
- Identify Halpha emission.
- **53 with spectra (18 with Halpha emission)**

Step #3: Composite SED



What's next?

- Identification of new candidates in the daily searches.
- Spectroscopic follow-up of the most promising candidates.
- Exploration of other alert systems with many more candidates (e.g. ZTF).

