

## Catalogue of UV sources in the Galaxy

Leire Beitia-Antero<sup>1</sup>, and Ana Inés Gómez de Castro<sup>1</sup>

<sup>1</sup> AEGORA Research Group, Universidad Complutense de Madrid, Facultad de CC. Matemáticas

### Abstract

The Galaxy Evolution Explorer (GALEX) ultraviolet (UV) database contains the largest photometric catalogue in the ultraviolet range; as a result GALEX photometric bands, Near UV band (NUV) and the Far UV band (FUV), have become standards. Nevertheless, the GALEX catalogue does not include bright UV sources due to the high sensitivity of its detectors, neither sources in the Galactic plane.

In order to extend the GALEX database for future UV missions, we have obtained synthetic FUV and NUV photometry using the database of UV spectra generated by the International Ultraviolet Explorer (IUE). This database contains 63,755 spectra in the low dispersion mode ( $\lambda/\delta\lambda \sim 300$ ) obtained during its 18-year lifetime.

For stellar sources in the IUE database, we have selected spectra with high Signal-To-Noise Ratio (SNR) and computed FUV and NUV magnitudes using the GALEX transmission curves along with the conversion equations between flux and magnitudes provided by the mission. Besides, we have performed variability tests to determine whether the sources were variable (during the IUE observations).

As a result, we have generated two different catalogues: one for non-variable stars and another one for variable sources. The former contains FUV and NUV magnitudes, while the latter gives the basic information and the FUV magnitude for each observation. The consistency of the magnitudes has been tested using White Dwarfs contained in both GALEX and IUE samples.

The catalogues are available through the Centre des Données Stellaires. The sources are distributed throughout the whole sky, with a special coverage of the Galactic plane.

### Acknowledgments

This work has been supported by the Ministry of Economy and Competitiveness of Spain through grants: AYA2011-29754-c3-01, ESP2014-54243-R. Leire Beitia-Antero acknowledges the receipt of a "Beca de Colaboración" from the Ministry of Education of Spain.