

1ES 1215+303

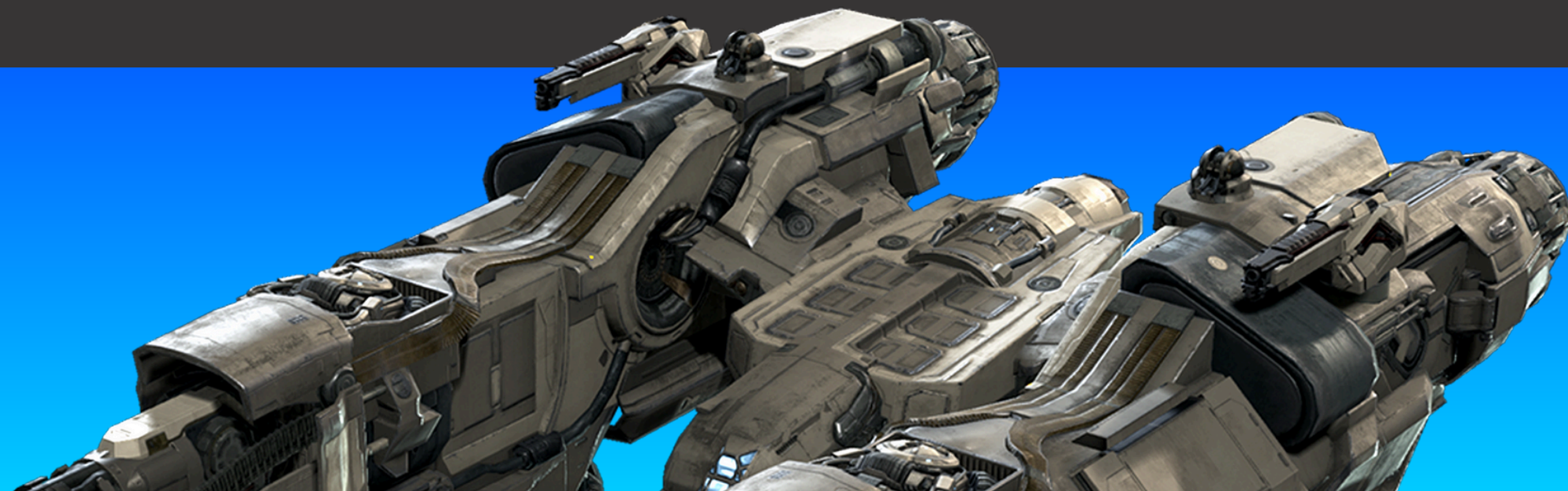
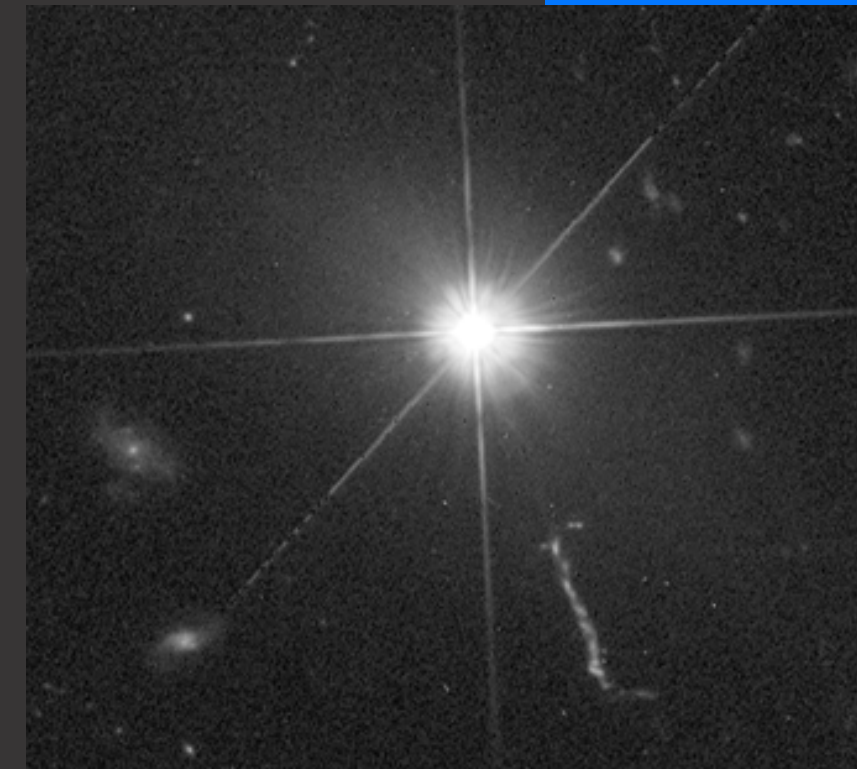


BLAZAR SOURCE

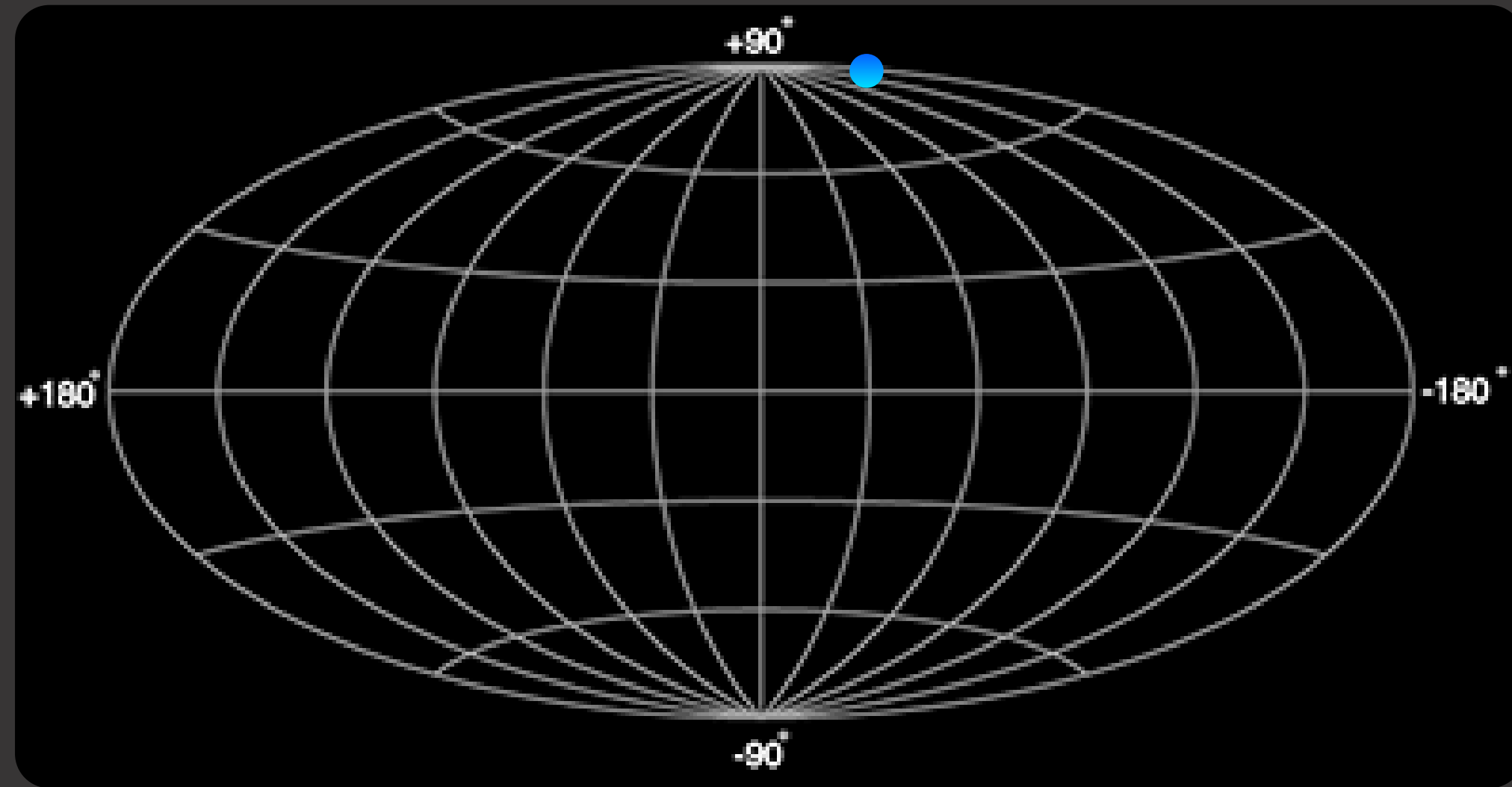
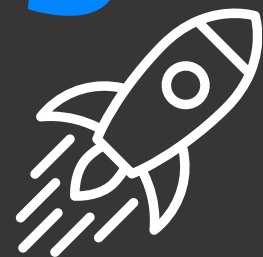
Screpis Noemi-Marotta Sara-Franco Francesca

ABOUT 1ES 1215+303

1ES 1215+303 is a blazar belonging to the BL Lacertae objects (BL Lac) class, a category of active galaxies with strong gamma-ray emission. It is located at a redshift of approximately 0.130 and exhibits high variability across different timescales. Its gamma-ray emission has been observed by experiments such as Fermi-LAT and HAWC, revealing significant activity in the gamma-ray band as well as typical blazar behavior in radio and optical frequencies. Its emission is attributed to relativistic processes, such as a relativistic jet emitting radiation across multiple spectral ranges.



1ES 1215+303 POSITION



Distance

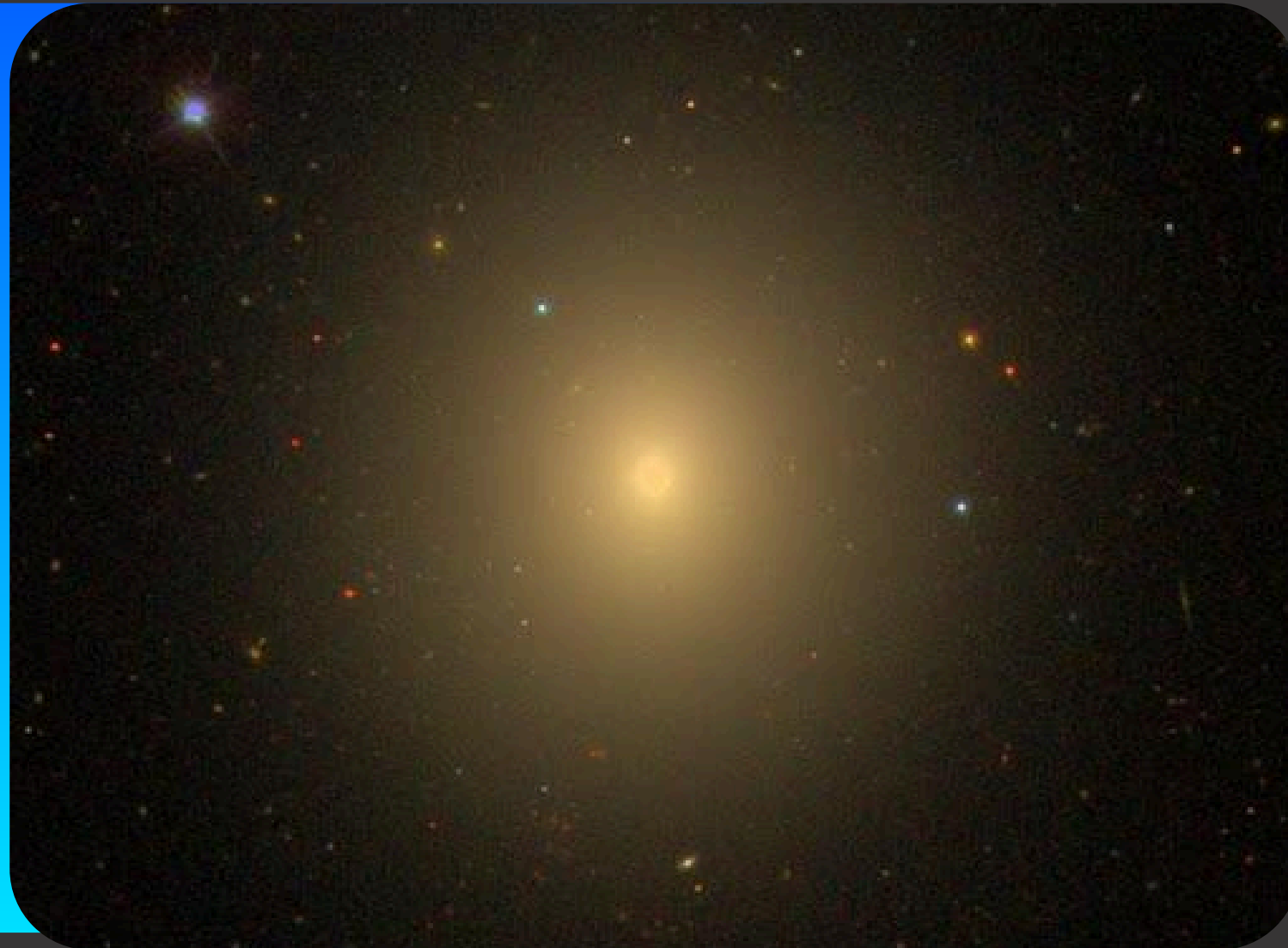
Z=0.131

GLON

189.0098

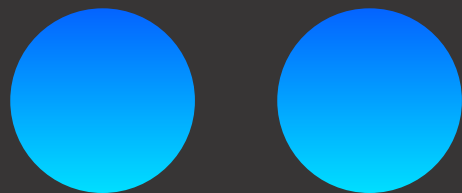
GLAT

82.0459



WHAT IS A BLAZAR?

A blazar is a type of active galactic nucleus (AGN) with a relativistic jet pointing almost directly at Earth. These objects emit radiation over a wide range of frequencies, from radio to very high-energy gamma rays. 1ES 1218+304, in particular, falls into the subclass of HBLs, where the peak of synchrotron radiation is found in the high frequencies (ultraviolet or X-rays).



FREQUENCY & LA SED

The SED of a blazar describes how the energy emitted varies over a wide frequency range. In the case of 1ES 1215+303, it presents the two classic peaks typical of a blazar:



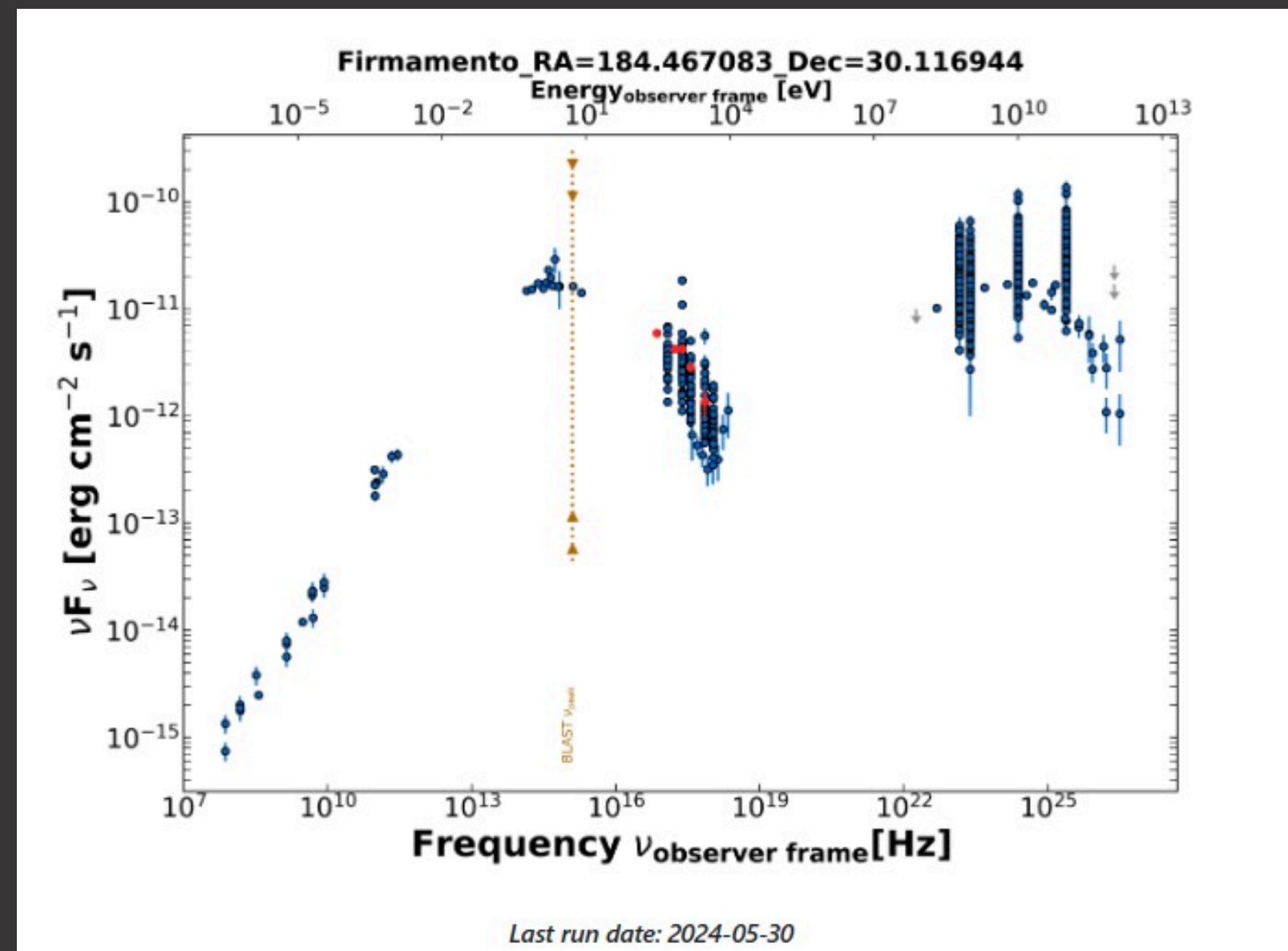
1. First peak

- Generally located in the radio and infrared regions of spectroscopy, in our case we find it in the ultraviolet region, at a frequency of about 10^{15} Hz and an energy of more or less 10^{-11} eV.
- It is characteristic of HBLs, in which the energy of the electrons is particularly high.



2. Second peak

- Commonly located in the optical, ultraviolet and x-ray bands, in our case it is located in the gamma rays, at a frequency of 10^{25} Hz
- it is produced by the interaction of the same electrons with low-energy photons, which are “pushed” to higher energies.



LIGHT CURVE

