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Latest Updates in agnpy: Implementing hadronic processes and analyzing FSRQ data

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In this contribution, we present the latest updates introduced to agnpy - an open-source python package for modeling broadband spectra of blazars.

Among the significant updates, we discuss the implementation of hadronic radiative processes. The agnpy software now implements proton synchrotron radiation and we are working also to implement the photo-hadronic process. Additionally, we introduce newly added fitting tools for observational data, allowing for the identification of the best theoretical model fitting the broad-band emission from radio to gamma rays. of a given object. In particular, we describe the application of these techniques to the analysis of FSRQ (Flat Spectrum Radio Quasars) objects, which are among the brightest gamma-ray sources in the sky. We also demonstrate the application of a new numerical method for calculating absorption in the photon field of a broad line region emitting several lines.

In conclusion, our contribution showcases the latest improvements in agnpy, emphasizing the value of this package as a tool for data analysis and blazar modeling. The presented updates, make agnpy an even more versatile and useful tool for scientists studying jetted Active Galactic Nuclei.

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