On the connection of radio and γ-ray emission of blazars

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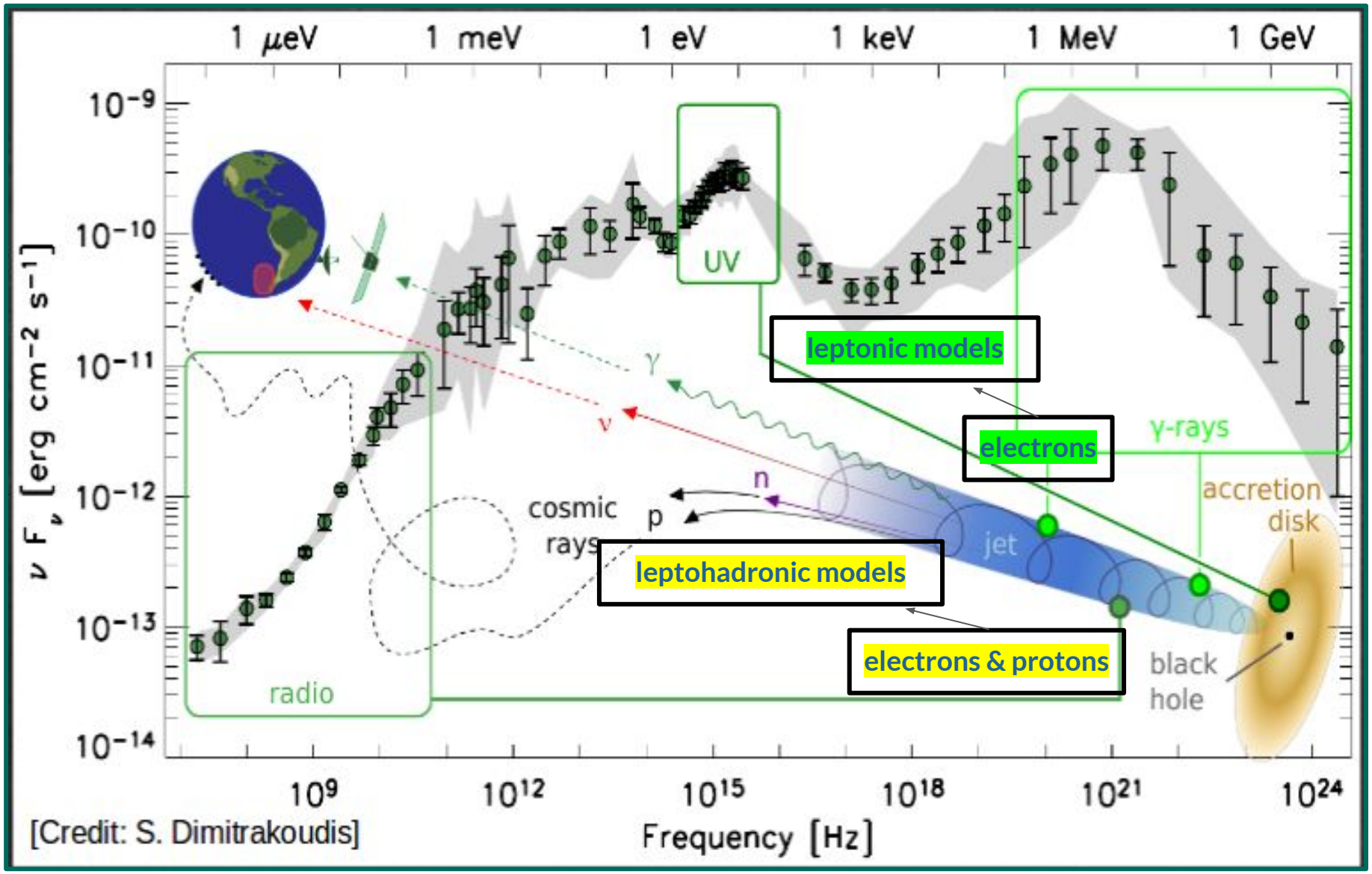
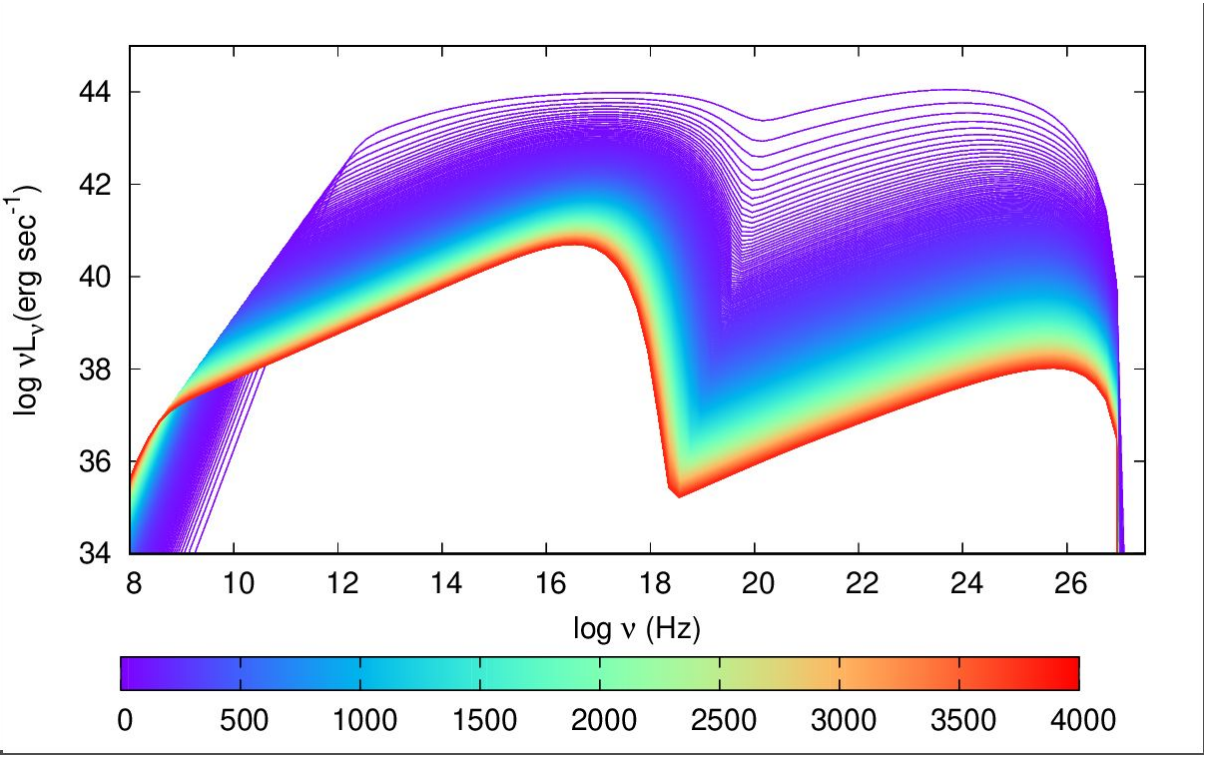
Blazars Spectral Energy Distribution (SED)



Rani et al., 2019

A new numerical approach:

A one-zone expanding model

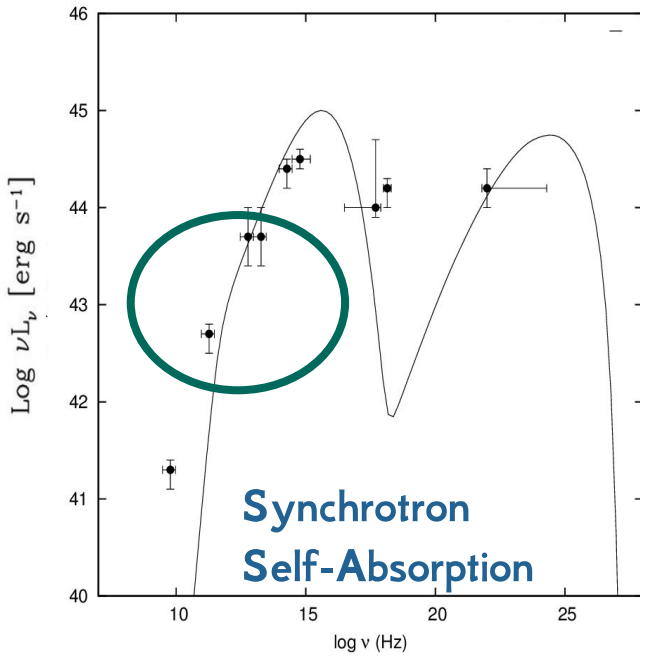


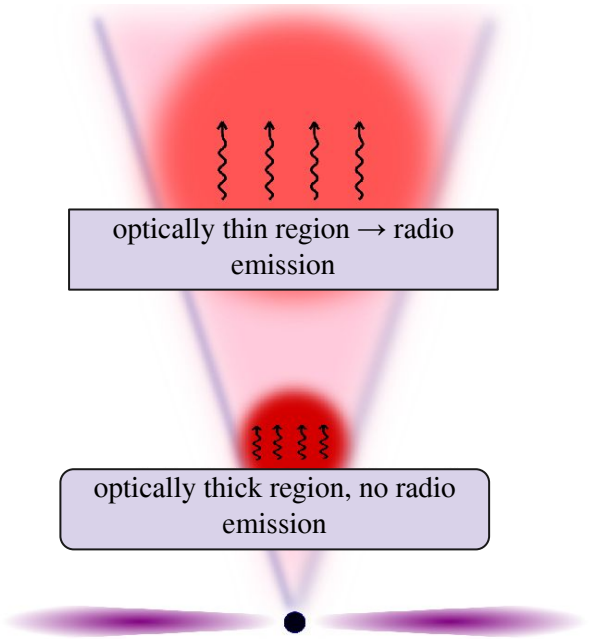
- Synchrotron Radiation
- Inverse Compton Scattering
- Synchrotron Self Absorption
- Photon-Photon Absorption
- Adiabatic Losses

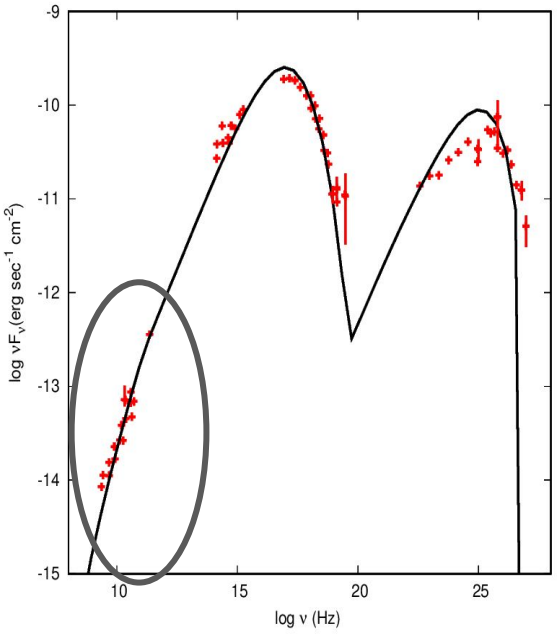
in an **expanding** source

A new numerical code based on Mastichiadis & Kirk, 1995, 1997; see also Boula et al. , 2019, Boula et al. to be submitted

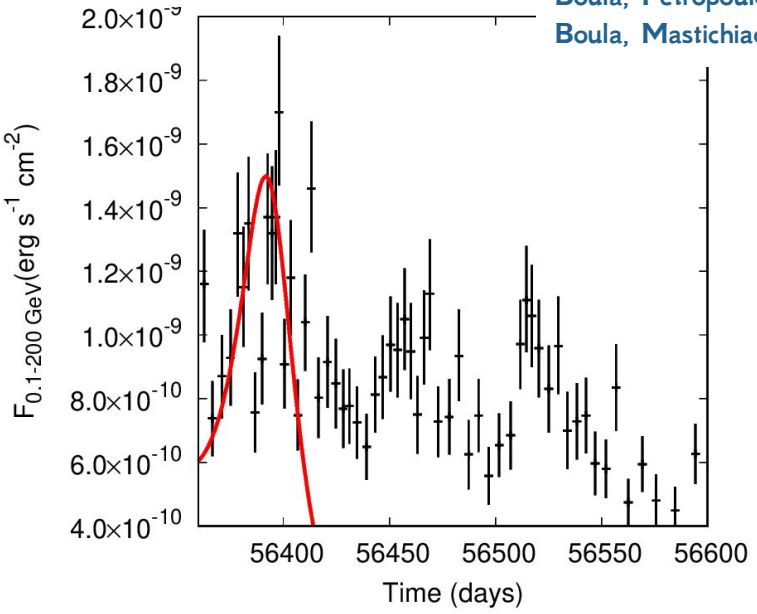
Localization of Emission and its connection to Flaring Activity, the case of Mrk 421

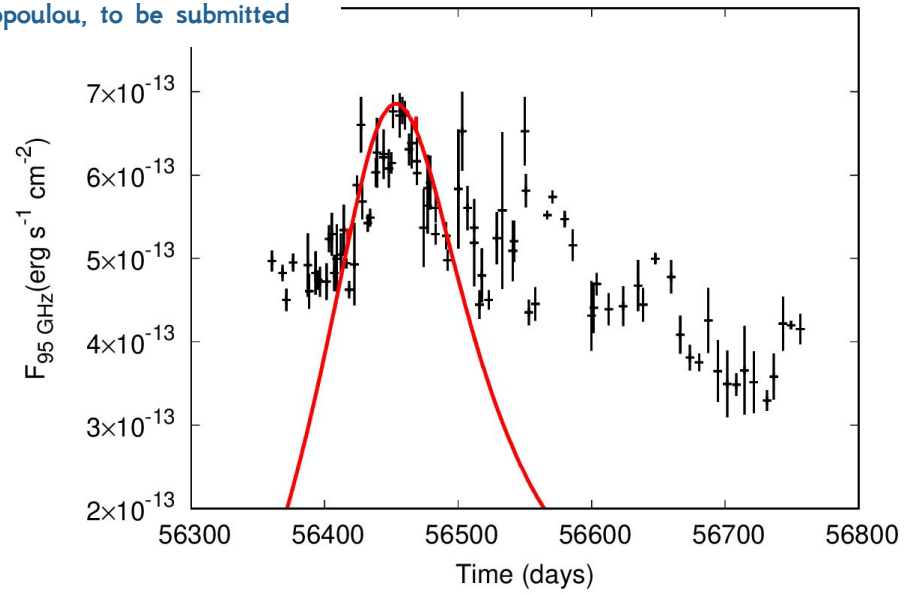






Boula, Petropoulou & Mastichiadis, Galaxies 2019
Boula, Mastichiadis & Petropoulou, to be submitted





Conclusions

- Development of a new one-zone expanding numerical leptonic code.
- Prediction of the localization of radio emission depending on the basic physical quantities of the source.
- Production of flaring episodes in radio and γ-rays may be produced by re-acceleration of electrons at a large distance from the central engine.
- No production of radio flares close to the central engine.