

# THE FLARING CRAB NEBULA: CURRENT UNDERSTANDING AND FUTURE OBSERVATIONS

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Flaring activity above 100 MeV was serendipitously detected from the Crab nebula by Agile and Fermi-LAT in 2010 . Since then, a tens of flaring events have been observed by Fermi-LAT showing different spectral and flux behaviours within each other. In the attempt of identifying the exact site of this enhanced emission observations by high-resolution lower-frequency instruments were triggered, although all unsuccessful so far. In this talk I will review the results of the observed Crab flares obtained by Fermi-LAT, and the subsequent multi-wavelength campaigns. These results will be discussed in the light of the state-of-the-art theoretical models. I will conclude by discussing the capabilities of future instruments to constrain the origin of these still enigmatic phenomena.

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