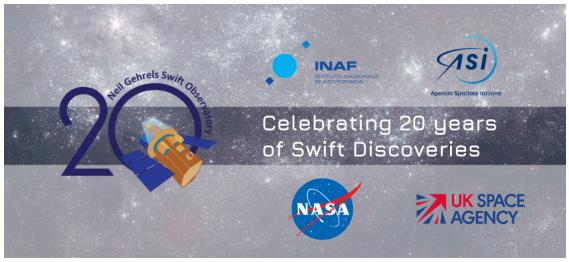

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Swift's Role in Shaping MAGIC's Multi-Wavelength high energy Astrophysics

Tuesday 25 March 2025 14:29 (1 minute)

The MAGIC telescopes, designed to observe gamma rays at energies exceeding 50 GeV, have significantly advanced their scientific capabilities through multi-wavelength (MWL) campaigns involving the Neil Gehrels Swift Observatory. Beginning operations just two years after Swift, the young MAGIC collaboration rapidly embraced MWL campaigns, integrating Swift's X-ray and UV observations with TeV gamma-ray data. This collaboration enabled the detection of flaring states in active galactic nuclei (e.g., 3C 279, TXS 0506+056, TON 599, and BL Lac), the long-term monitoring of blazars and the construction of broad spectral energy distributions (SEDs) that have advanced our understanding on the physical processes in these sources. Swift's observations were also critical in interpreting the TeV emission detected in GRB 190114C, a landmark discovery in high-energy astrophysics. This partnership has not only enriched MAGIC's science but has also had a transformative impact on the collaboration, enabling it to fully exploit the potential of joint MWL campaigns.

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