Gamma-ray Astronomy with Imaging Atmospheric Cherenkov Telescopes

Monday, 25 July 2022 12:00 (30 minutes)

The imaging atmospheric cherenkov technique was first established with the detection of gamma–ray emission from the Crab nebula by the Whipple collaboration in 1989. Since then, the technique has continued to advance dramatically, with the use of stereoscopic observations, fast imaging cameras and machine learning analysis techniques, rapidly transitioning from studies of individual gamma-ray sources to surveying regions of the sky. From just one source, well-over 200 TeV gamma-ray sources are currently known. More recently, observations of transient phenomena have risen to prominence, whilst recent advances in complementary ground particle detectors have further pushed the boundaries of the Imaging Atmospheric Cherenkov Technique towards high energies and extended sources. Nevertheless, the achievable energy and angular resolution is uncontested in the TeV energy range, enabling detailed studies of several complex regions.

This talk will review the Imaging Atmospheric Cherenkov Technique, highlighting some recent achievements by current generation facilities and providing an outlook to the forthcoming Cherenkov Telescope Array.

Presenter: MITCHELL, Alison

Session Classification: Invited highlights

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