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Multimessenger astronomy with ultra-high-energy cosmic rays and high-energy neutrinos

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Multi-messenger astrophysics has advanced rapidly in the last decade, owing, primarily, to the newly discovered and growing body of observations of high-energy neutrinos and gravitational waves. Meanwhile, ultra-high energy cosmic ray experiments have made groundbreaking observations during this time, such as the discovery of dipole anisotropy in the UHECR arrival directions, which have revitalised the field of ultra-high energy cosmic ray astronomy. In this talk, I will review recent results in the search for the origin of high-energy neutrinos and ultra-high-energy cosmic rays. I will also summarise our current understanding of the role of active galactic nuclei, gamma-ray bursts, and tidal-disruption events as high-energy-cosmic-ray accelerators based on the latest multimessenger observations.

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