INTEGRAL's Legacy in Extragalactic High-Energy Astrophysics

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Abstract

With more than two decades of operation, the INTEGRAL observatory has made major contributions to extragalactic high-energy astrophysics through its unique sensitivity in the hard X-ray and MeV gamma-ray domain. In this talk, I will review the mission's most influential results, from long-term surveys of active galactic nuclei and their contribution to the cosmic X-ray background, to broadband studies of relativistic jets and gamma-ray bursts, and INTEGRAL's role in the emerging era of multi-messenger astronomy through observations of gravitational-wave events and follow-up of high-energy neutrino alerts. I will conclude by discussing how these achievements continue to shape the scientific priorities of the next generation of MeV observatories, including the forthcoming COSI mission, illustrating how INTEGRAL's legacy will continue to guide the exploration of the high-energy Universe.

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