

Observations of Hard X-ray counterparts of multi-messenger transients with INTEGRAL

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Recent years were marked by breakthrough observations of new multi-messenger and multi-wavelength transients, often unveiling unanticipated and puzzling phenomena. Likely almost universally associated with most energetic processes in the dense regions at the heart of the peculiar supernovae, mergers of compact objects, or tidal disruption events, these events expose unique signatures in hard X-ray and gamma-ray emission.

I will highlight recent pioneering observations of short energetic transients made with INTEGRAL, which is especially well-equipped to observe unpredictable, short-lived, and energetic hard X-ray and gamma-ray transients. It carries a collection of detectors that monitor the entire hard X-ray sky with over 80% duty cycle and are able to re-point to perform deep and sensitive hard X-ray observations of a large selected sky region.

Finally, I will review how the recent discoveries in the domain of multi-messenger transients were made possible by a global effort to achieve a new degree of automation and interoperability.

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