

# hetDB: Tracking transient observations from the past, present, and future

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Astronomers use a variety of particle messengers (e.g., EM radiation, neutrinos, cosmic rays) to make their observations, with each messenger providing unique information about the astrophysical object. To ensure that a wide range of data is available to analyse transient events, networks such as NASA's Gamma-ray Coordination Network (GCN) distribute automated notices from certain telescopes immediately after they detect a potential astronomical event. Other telescopes use these notices to inform their follow-up observations, which are then distributed via the same network.

GCN has provided a useful service since 1997, but the legacy of its initial design means that the data it distributes is not usable for automated analysis. To ease these challenges, we created the High-Energy Transients Database (hetDB). Developed with a principal focus on making data from IceCube's neutrino notices (and follow-up circulars) usable for analysis, it extracts information from GCN notices and circulars and stores them in a persistent database. The database has an idiomatic Python interface, designed for use by one unfamiliar with CN's internal workings. This allows one to easily integrate information from GCN with other data, such as the Fermi catalog of gamma ray sources and reports of historic gamma-ray flux from each.

In this talk, I will present the status of hetDB development and speak to future plans in the field.

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