

Transients in Middle Earth



Contribution ID: 8

Type: not specified

The Deeper, Wider, Faster program - 10 years later

Tuesday, 10 February 2026 11:00 (20 minutes)

The Deeper, Wider, Faster (DWF) program has grown to coordinate over 100 telescopes located on every continent and in space operating at all wavelengths (radio, mm, IR, optical, UV, X-ray and gamma-ray) and includes particle detectors (and gravitational waves, when operating) to search for and study fast transients (those with millisecond-to-day durations). DWF was developed in 2014 and was the first all-wavelength, multimessenger program - even before the first gravitational waves were detected. The program is large and complex, but has 4 main components (1) coordinated all-wavelength wide-field, fast cadenced observations of the same fields at the same time, (2) real-time (seconds-to-minutes) data processing and transient identification, (3) rapid (minutes later) and conventional 8m-class optical, radio, and high-energy ToO triggers, and (4) later time field and target monitoring for fast transients associated with slower evolving events and early detections of slower evolving events. I will highlight the history, growth, and some science outcomes, along with lessons learned from a decade of DWF.

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Session Classification: Ground-based