



Extreme Nuclear Transients

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Extreme Nuclear Transients (ENTs) are a newly discovered class of **cosmic explosions**, even more powerful than **gamma-ray bursts (GRBs)**, which are the **most intense flashes of electromagnetic radiation**.

ENTs

- **About:** **Extreme Nuclear Transients (ENTs)** are powered by the **accumulation of stellar debris** from **massive stars**, at least **three times the mass of the Sun**, which are torn apart by [supermassive black holes](#).
- **Mechanism:** **Extreme tidal forces** stretch and compress the star near the **event horizon**, releasing enormous amounts of electromagnetic energy.
- **Features:** ENTs can **remain luminous in [radio wavelengths](#) for years**, making them detectable across vast distances.
 - While ENTs share similarities with **Tidal Disruption Events (TDEs)**, they differ in that ENTs occur in larger host galaxies and involve more massive central black holes.
 - **Fast X-ray transients (FXTs)** are short-lived and less energetic than ENTs, originating from [supernovae](#) rather than interactions with supermassive black holes.
- **Significance:** Observing ENTs helps study **supermassive black holes**, including inactive ones, and **extreme cosmic physics**.
 - Upcoming telescopes like the **Vera C. Rubin Observatory** and **Nancy Grace Roman Space Telescope (2027)** will enhance ENT observations and understanding of the early universe.

Read More : [GRB 200826A: Gamma-Ray Burst](#)

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