TRACET Web App

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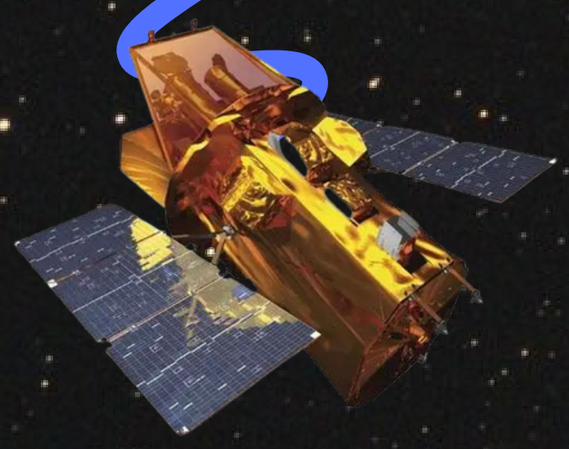
GRB / flare star/ FRB

The Project

The Transient RApid-response using Coordinated Event Triggering (TRACET) web application receives and parses VOEvents and then goes through researcher-defined logic and thresholds to immediately trigger an observation or notify researchers so they can decide whether to observe.



The Problem

Transient events are interesting but can evolve quickly and require a rapid response to get instruments on target in time. Instruments such as *Swift* (pictured) transmit VOEvents to alert users of new events. Parsing this stream of data, identifying relevant events, and triggering a telescope observation is a tricky process to automate, making it hard to observe events within minutes of an alert.

Most recent Transient Events

						Proposal Decisions			
ID	First Alert (UTC)	Event Telescope	Trigger ID	Source Type	Source Name	ATCA_short_GRB	MWA_Fermi_GRB	MWA_VCS_GRB_swif	test2
71	2022-06-20 14:44:39	Fermi	677429052	GRB	None	Ignored	Ignored	Ignored	Ignored
70	2022-06-20 06:16:56	Fermi	677398590	GRB	None	Ignored	Ignored	Ignored	Ignored
69	2022-06-20 01:32:36	Fermi	677381531	GRB	None	Ignored	Ignored	Ignored	Ignored
68	2022-06-20 00:32:34	SWIFT	1111002	None	None	Ignored	Ignored	Ignored	Ignored

MWA
Radio FRB
8-300 MHz
Response <20 s

ATCA
Radio Afterglow
1-20 GHz
Response 2-10 min

The Solution

The TRACET web app receives and parses the VOEvents' different formats into a unified database. Researchers can set up several proposals to trigger different types of transients, e.g. observing SWIFT GRBs with the MWA. The web app summaries recent transient events (see above) and records the raw VOEvent and decision log as it goes through the triggering logic. Researhcers will be notified of ambiguous events through email, text or call so they can make an expert decision if it is worth observing. This web application ensures that only interesting events are observed.