

# FAST Proposal Coverpage

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## **Project Name:**

*(A 1-line title for your project)*

Search for Fast Radio Bursts from Superluminous Supernovae PTF10hgi

## **Project Summary:**

*(A 1 paragraph summary of your project, including its scientific goals and how you will address them. This information will be potentially public.)*

Fast radio bursts are bright, millisecond duration radio bursts emanating from outside our Galaxy. All but two of all published FRBs have been one-off events. Localisation and study of the repeating FRB121102, led to the identification of its host to be a low metallicity dwarf galaxy with a persistent radio source associated with it. The properties of this persistent source prompted theories consisting of a young magnetar powering a pulsar wind nebula born in a superluminous supernova (SLSN). The source PTF10hgi, instead, is the first SLSN with which a persistent radio source has been identified. It has exhibited properties similar to those of FRB121102, thus motivating us to conduct targeted observations of this source for FRBs using the supreme sensitivity of FAST to probe deep into this target. A detection of any FRBs from this source would provide crystal-clear support for an FRB subclass associated with young supernovae.