

35th Symposium on The Search for Extraterrestrial Intelligence (SETI) – The Next Steps  
(A4.)

SETI I - Technical Aspects (1.)

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**ASTROPULSE: A SETI RADIO SKY SURVEY ON MICROSECOND TIME  
SCALES**

**Abstract**

Astropulse is a survey of the radio sky using data from Arecibo. It will search for both transient and periodic radio pulses on microsecond time scales with unprecedented sensitivity. Prior SETI work has focused on narrow band (CW) signals, but ET could instead be communicating using short-time (and therefore broadband) pulses. We have higher sensitivity than previous surveys because we will use parallel computation with many volunteers. The computation will be orchestrated by the BOINC system that also powers SETI@home, among other projects. Based on the success of prior BOINC projects, we expect hundreds of thousands or even millions of volunteers. In addition to the search for extraterrestrial intelligence, we also hope to find millisecond pulsars, RRATS, and primordial black holes. Pulsars emit periodic, repeating pulses, but they also emit single, transient giant pulses. RRATS, or rotating radio transients, are a newly discovered radio source and are thought to be rotating neutron stars. Finally, a primordial black hole, created during the big bang, would release a single radio pulse at the end of its life as it evaporates due to Hawking radiation.