

Proposal Abstract:

We propose to continue the collaborative re-observation of the best candidates from the SETI@home Arecibo Sky survey at FAST, the most sensitive SETI sky survey ever conducted. The SETI@home team has provided a list of 225 best SETI candidates from 14 years of commensal multibeam observing at Arecibo, using several million years of volunteer computing time followed by the Nebula SETI data analysis pipeline. We have observed 50 of these candidates in 2021 and 2022, 25 in the 2023 project and propose to observe the remaining 150 in the 2024 project. Our data analysis process involves two stages: first, identifying brief excesses of narrow-band or pulsed power known as "detections," and second, removing RFI and evaluating target signal candidates. We have developed a new machine learning (ML) approach to RFI removal that is more efficient than the ML attempts in the first FAST SETI survey. Therefore, we propose to re-observe the best SETI candidates at FAST, which is the only telescope sensitive enough to potentially confirm them as signals from another civilization.