

Andrew Johnson

From: SETI Web [setiweb@ssl.berkeley.edu]
Sent: 20 March 2003 19:02
Subject: SETI@home news bulletin

Dear ADJ:

This is an exciting time for SETI@home. On March 18-20 2003 we travel to the Arecibo radio telescope to re-observe the most promising "candidates" produced by our search so far. There is a chance that these new observations will yield the first real evidence of extraterrestrial life. Thanks for being part of this history-making effort! According to our records, you have processed 206 work units, the most recent on March 16, 2003. Your contribution of computer time to SETI@home is greatly appreciated.

Support SETI@home - Join The Planetary Society

Without the unwavering support of The Planetary Society, we would not be embarking on this round of re-observations. We strongly urge all SETI@home users to join The Planetary Society and help keep our project alive. If you join now, you'll receive a free poster titled "Is Anybody Out There?" featuring an evocative image of the millions of stars near the center of our galaxy. Go to: <http://planetary.org/html/member/SETIOffer.html>

The Planetary Society supports several different searches for extraterrestrial intelligence, as well as extra-solar planet research and many other worthwhile projects. For a look at the full range of their activities, visit <http://planetary.org>

Thanks also to our other major sponsors: the University of California, Sun Microsystems, Network Appliance, Fujifilm Computer Products, and Quantum; and to individuals around the world who have generously donated to SETI@home: see <http://setiathome.berkeley.edu/donor.html>

Scientific News

With the help of participants like you, SETI@home has analyzed about 10,000 hours of data from the Arecibo radio observatory, producing a database of several billion events (spikes, Gaussians, pulses, and triplets). From this database, we have extracted the "candidates" that, in our judgement, have the greatest likelihood of coming from an extraterrestrial synthetic source. The factors in this evaluation include:

- Signal power
- Goodness of fit
- Detection several different times
- Proximity to a nearby star, especially one similar to our Sun.

Our next step is to re-observe the top candidates by pointing a radio telescope at that location in the sky and checking for a similar signal. We applied for telescope time at Arecibo and were granted 24 hours, in three 8-hour chunks on March 18-20, 2003. If everything goes well, this will be enough time to re-observe about 150 candidates.

The re-observations will be done using the main receiver at Arecibo, which has a smaller beam and greater sensitivity than the antenna we normally use. We'll record the re-observations on magnetic tape, both in our usual format of 2 bits per sample, and in a higher-resolution format with 8 bits per sample.

Then we'll analyze the recorded data in three ways:

- We'll do a fast analysis using computers at Arecibo; this will guide us in choosing candidates on which to spend more time.
- We'll analyze the 2-bit data using the current SETI@home client; this will take place during the week or two after the Arecibo visit.
- We'll analyze the 8-bit data using a new client program based on BOINC (see below), yielding better sensitivity. This will take place a month or two after the Arecibo visit.

More information on the re-observation project is here:
<http://planetary.org/stellarcountdown/>

Project News

The re-observation is just one of the things keeping us busy. We have built a new data recorder capable of handling the 13-channel multibeam receiver at Parkes in Australia. This will produce data for our new "Southern SETI@home" project, which we hope to start later this year if we can raise the necessary funds. In addition, we are preparing a new distributed computing project, Astropulse, that will analyze our current SETI@home data, looking for evidence of evaporating black holes, fast pulsars, and new types of ET signals. See <http://www.planetary.org/astropulses.html>

Our upcoming distributed computing projects will use the Berkeley Open Infrastructure for Network Computing (BOINC), which we are developing with support from the National Science Foundation. See <http://boinc.berkeley.edu>. BOINC will also be used by science research projects in other areas, such as molecular biology and climate prediction. BOINC lets you choose how much computer time to devote to each project. The transition from SETI@home to BOINC will be gradual. We'll continue to record new data at Arecibo even while BOINC ramps up; for now you can help us most by continuing to run SETI@home.

Whether or not the re-observations find an ET signal, SETI@home has been a tremendous success and a lot of fun. We are very grateful for the participation and enthusiasm of our users all over the world, and we look forward to continuing working together to investigate the mysteries of the universe.

Dr. David P. Anderson
Project Director, SETI@home
<http://setiathome.berkeley.edu>

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