

42nd SYMPOSIUM ON THE SEARCH FOR EXTRATERRESTRIAL INTELLIGENCE (SETI) – The
Next Steps (A4)
SETI 1: SETI Science and Technology (1)

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PROJECT DOROTHY: WORLDWIDE JOINT SETI OBSERVATION TO COMMEMORATE THE
50TH ANNIVERSARY OF PROJECT OZMA

Abstract

In 1960, first attempt to detect ETI signals (Project OZMA) was performed (Drake 1960). After that more than 100 SETI observations have been carried out. In case we detected evidence of an ETI evidence, the "post-detection SETI protocol" of the International Academy of Astronautics is to be observed. According to this, the discoverer should promptly inform other observers to confirm the discovery by independent observations and to establish a worldwide network to enable continuous monitoring of the signal.

To commemorate the 50th anniversary of Project OZMA, we carried out Project Dorothy, a worldwide Joint SETI Observation, in November 2010 and spring and fall 2011 as preliminary practice for the discovery of an ETI signal. A total of 29 organizations in 15 countries on 5 continents registered for this project.

The two original OZMA targets (Tau Cet and Epsilon Eri), the host stars of habitable planets (GJ 581, HD 69830 and 55 Cnc), HabCat stars (Eta Ari and HD 168746) and Kepler objects of interest (potentially planet-bearing stars) were selected for the Project Dorothy. Observations were made at 17 sites (ATA, Arecibo, Green Bank, Harvard University, Gwacheon, SKA South Africa, Medicina, LOFAR, LOFAR-UK, Nançay, Cardona, IAR, Takahashi, Wakayama University, Agawa, Yamaguchi University and Tokai University) at 30 MHz-8.3 GHz. The headquarters is located at Nishi-arima Astronomical Observatory, Japan.

If an exo-civilization, 100 ly away were to transmit the same power as the Arecibo s-band planetary radar (2E10+13 W, EIRP), its flux is 10-24 W/m² and could be detected with the 32m dish of Yamaguchi University (Narusawa et al. 2011).

We believe our pilot project confirms the feasibility of a worldwide network to enable monitoring of remarkable evidences. Here we present the project and its preliminary results.

References

Drake, F. 1960 Sky and Telescope 19, 140

Narusawa et al. 2011 "CETI" (ED. D. Vakoch) p. 109