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Instrument Technologies for the Detection of Extraterrestrial Interstellar Robotic Probes

Scot Lloyd Stride

5302 N. Ranger Dr.
Covina, CA 91722 USA
email: scot.stride@jpl.nasa.gov

Abstract

In the continuing endeavor to detect evidence of ETI (Extraterrestrial Intelligence) in the galactic neighborhood, instrument technologies now exist that allow the formation of a scientific method to carry out a search for interstellar robotic probes of alleged extraterrestrial origin. The range of currently observable probe features/manifestations will be shown and how they influence search space, instrument selection and deployment. Autonomous instrument platforms (i.e. robotic observatories) to search for anomalous energy signatures can be designed and assembled using Commercial off-the-shelf (COTS) hardware and software. The COTS approach to observatory design provides an economical, flexible and robust path toward collecting reliable data. The present variety of COTS instruments permits the necessary observational sensitivity, bandwidth and embedded processing speed to establish a nearby regional robotic probe detection envelope. A survey of these instrument technologies will be presented and how they can be applied to the challenge of collecting enough scientific data on anomalous observational phenomena to determine whether or not a robotic probe was detected.

Keywords: SETI, OSETI, interstellar probes, instruments, sensors, embedded computing, detection platforms.