53rd IAA SYMPOSIUM ON THE SEARCH FOR EXTRATERRESTRIAL INTELLIGENCE (SETI) – The Next Steps (A4)
Interactive Presentations - 53rd IAA SYMPOSIUM ON THE SEARCH FOR EXTRATERRESTRIAL INTELLIGENCE (SETI) – The Next Steps (IP)

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A COMPREHENSIVE APPROACH TO DETECTING EXTRATERRESTRIAL INTELLIGENCE: INTEGRATING ROBOTIC PROBES, TECHNO SIGNATURES, AND AI-ENHANCED RFIS.

Abstract

Have you ever pondered the existence of intelligent life beyond Earth, spanning from microscopic organisms to possible alien civilizations? Researchers globally are working on Techno Signatures, which are quantifiable attributes or phenomena indicating the presence of technological advancements by extraterrestrial beings. However, defining intelligence poses a challenging task, encompassing the capacity to acquire knowledge, learn from experiences, adapt to surroundings, and effectively employ reasoning. One approach to scale intelligence involves tracking technological advancements and innovative endeavors. Our study proposes a methodology for detecting extraterrestrial intelligence by deploying robotic interstellar probes and devising a systematic approach to detect similar probes launched by more advanced societies. Leveraging a deep learning framework, we aim to enhance the search for intelligent life. A key obstacle lies in refining radio frequency interfaces (RFIs). To address this, we advocate for a machine learning and AI framework to analyze data collected by radio telescopes, identifying potential signals from intelligent civilizations. The imperative task of formulating protocols for responding to the discovery of extraterrestrial life, ensuring a cohesive and appropriate global reaction is also addressed.