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SETI I – Technical Aspects (1.)

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QUANTIFYING PAST TRANSMISSIONS USING THE SAN MARINO SCALE

Abstract

To date, at least five experiments which could be classified as Active SETI, or METI (Messaging to Extra-Terrestrial Intelligence) have been conducted from Planet Earth: the well-known Arecibo Message of 1974, two Cosmic Call transmissions from Evpatoria, the Teen-Age Message to the Stars also transmitted from Evpatoria, and the paradigm-altering Invitation to ETI, being quasi-transmitted continuously via the Internet. In addition, planetary defense radar transmissions from Earth, radiated for the purpose of detecting potentially hazardous asteroids, can be considered inadvertent METI signals, to the extent that they can be detected over interstellar distances. Planetary radar transmissions from both Goldstone and Arecibo are considered. Each of these various emissions is analyzed in terms of duration, directionality, information content, and transmitter power, and then each is assigned an integer ordinal value on the proposed San Marino scale for quantifying transmissions from Earth. A comparative analysis of these quantified transmissions underscores the difference in impact of various METI experiments, suggesting the utility of the San Marino Scale as a valuable analytical tool for making informed policy decisions.