
Charles Cros and Nikola Tesla, Pioneers of Interplanetary Telegraphy

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Abstract

The birth of SETI (Search for Extraterrestrial Intelligence) is usually dated[1] from 1959 with the famous Cocconi and Morrison publication emphasizing that microwaves frequencies were the most appropriate for interstellar communication[2]. In 1960, American astronomer Frank Drake was the first to put this hypothesis into practice with the Project Ozma. Since then, a lot of searches have been undertaken -in radio or optical frequencies- to attempt to intercept alien signals from advanced technological civilizations. Another aspect of communication is sending messages, known as METI[3] (Messaging to ExtraTerrestrial Intelligence, another term is ActiveSETI), which seems to be less prevalent than SETI but perhaps even more debated. Some messages have been sent to the stars during the past decades, generally more for symbolic purposes than to start a "conversation" with other -very far and unknown- planets. Recently, however, the discovery of potentially habitable exo-Earths revived the question of messaging to alien civilizations, since these exoplanets represent now concrete targets.

Considering a historical perspective, sending messages to other planets is not a new idea. Pioneering projects were proposed during the nineteenth century to communicate on an interplanetary scale. The latter half of the nineteenth and the very beginning of the twentieth century were particularly prolific periods on that question, and many efforts were made to elaborate schemes to contact our neighboring planets through an interplanetary telegraphy. Developments in the field of terrestrial communications (electrical telegraphy, telephone) and intense Martian observations suggested it could be achievable to "talk to other planets", especially Mars. In this paper we focus on French inventor and poet Charles Cros (1842-1888) and Serbian-American inventor and physicist Nikola Tesla (1856-1943), who have been among the most active and convinced pioneers of interplanetary telegraphy. Their projects are discussed here, even if they have never been put into practice.

In fact, the acronym SETI was not used before 1975.

Giuseppe Cocconi and Philip Morrison, Searching for Interstellar Communications, *Nature*, **184** (4690) 844-846 (1959).

The acronym METI was coined by Russian scientist Alexander Zaitsev in 2005 (<http://www.cplire.ru/html/ra&sr/in>) and discussed in different papers such as A. Zaitsev, The SETI Paradox, *Bull. Spec. Astrophys. Obs.*, **60**, (2006).

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