

18th IAA SYMPOSIUM ON VISIONS AND STRATEGIES FOR THE FUTURE (D4)
Strategies for Rapid Implementation of Interstellar Missions: Precursors and Beyond (4)

Author: Dr. Ugur Guven
UN CSSTEAP, United States, drguven@live.com

INTERSTELLAR TRAVEL: POSSIBILITY OR A DREAM – PLAUSIBILITY ANALYSIS

Abstract

Interstellar travel has been one of the biggest dreams of mankind since the dawn of civilization. However, up to now, interstellar travel has been only possible in science fiction novels and movies. Though there have been many developments in space technology since the launch of Sputnik, we are still very far away from the necessary technology to reach other stars besides our own. Of course, there have been many interstellar travel projects such as the Daedalus Project, 100 Year Starship Project and many others. However, none of these projects have materialized. Fortunately, there are many developments across the world by various space agencies, universities and organizations that show promise for humankind's ability for interstellar travel. There have been numerous developments in nuclear propulsion ranging from thermal nuclear propulsion to advanced fusion systems. In addition, novel systems such as interstellar antimatter drive, ion propulsion drive, plasma drive and warp drive are also under research. This paper summarizes the concept of interstellar travel, the basic parameters required, relativistic effects as well as cost of interstellar travel, challenges and the latest developments in order to provide the readers with a realistic review as well as plausibility analysis. Also case study of a probable interstellar destination is also given with different parameters and propulsion methods to help the reader understand their differences and various advantages.