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Strategies for Rapid Implementation of Interstellar Missions: Precursors and Beyond (4)

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HIGH TEMPERATURE-SUPERCONDUCTOR MATERIAL (HTSM) USED FOR ELECTRONICS IN RADIO-ISOTROPIC THERMAL HEAT GENERATOR(RTG) WHERE THORIUM RODS ARE BEING USED AS CELLS FOR SOURCE.

Abstract

Since launch of Voyager 1 we have that the exploration of deep space has become one of the primary aspect of space missions, but sending a satellite that far often cause an issue with the power management which is caused in traditional electronics being made on silicon board. The idea in this paper is to use a high temperature superconducting material with RTGs which which help in conserving the power since we know that the decay in power of the system will be much less than the traditional system as the power output of any superconducting material is to be given by the V=IR but since we have that the net power output of any supercomputer is zero the net resistance will be also zero in theoretical sense but on practical ground can be assured that this power decay will be far more less on logarithmic scale. Also we have that the RTGs choice for fuel rods can be thorium as we have that the thorium being least radioactive we wont be looking too seriously with the fact that all the electronics on board will be affected by the radioactivity.