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POWER SUPPLY BASED ON THERMOCOUPLES WITH CRYOGEN CONTACT COLD JUNCTION

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Abstract:

Thermocouples are widely employed for the purpose of sensing and measuring in scientific and industrial fields. A wide variety of thermocouples are available to meet diverse applications on the basis of temperature in which they are required to operate. Although, a considerable amount of research has been done on the radioisotope thermoelectric generators (RTG) based power supply this paper presents a new concept of the thermocouple-based power supply. This concept is based on utilizing a cryogen in contact with the cold junction whereas the hot junction is exposed to the ambient temperature to provide temperature difference for voltage generation.

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