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(57) Abstract :

The supply of non-polluted electrical energy is the major challenge right now. The future generations of the world should reduce the electrical energy consumption and should become more diverse in the use of renewable energy sources such as solar, wind, and Hydropower. The Solar flux or the radiation is considered as one of the thermal energy. The Thermoelectric Cells are constructed with the thermoelectric materials to convert the thermal energy into electrical Energy. The Thermoelectric Generators are made up of with these cells to generate electrical power from the thermal energy. The Thermoelectric Generators are having two thermocouples on both hot and cold side. The Stress test on these modules creates a good contact between the hot and cold side creates an electric power. The Present invention disclosed here is Stress Test on Single Thermoelectric Cell in water-based Cooling CTEG System comprising of: Thermoelectric Cell (201); Cool Side (202); Cool Water Inlet (203); Stress by Weights (204); Hot Side (205); Variable Supply Voltage (206); Load (207); Data Acquisition System (208); Computer (209); generates greater thermoelectric power due to the stress applied on the cool side of the Thermoelectric Generator in water-based Cooling CTEG System.

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Abstract:

The supply of non-polluted electrical energy is the major challenge right now. The future generations of the world should reduce the electrical energy consumption and should become more diverse in the use of renewable energy sources such as solar, wind, and Hydropower. The Solar flux or the radiation is considered as one of the thermal energy. Thermoelectric Cells are constructed with the thermoelectric materials to convert the thermal energy into electrical energy. The Thermoelectric Generators are made up of these cells to generate electrical power from the thermal energy. The Thermoelectric Generators are having two thermocouples on both hot and cold side. The Stress test these modules creates a good contact between the hot and cold side creates an electric power. The Present invention disclosed here is Stress Test on Single Thermoelectric water-based Cooling CTEG System comprising of: Thermoelectric Cell (201); Cool Side (202); Cool Water Inlet (203); Stress by Weights (204); Hot Side (205); Variable Supply Voltage (206); Load (207); Data Acquisition System (208); Computer (209); generates greater thermoelectric power due to the stress applied on the cool side of the Thermoelectric Generator in water-based Cooling CTEG System.

Complete Specification

- Claims: 1. Stress Test on Single Thermoelectric Cell in water-based Cooling CTEG System comprising of: Thermoelectric Cell (201); Cool Side (202); Cool Water Inlet (203); Stress by Weights (204); Hot Side (205); Variable Supply Voltage (206); Load (207); Data Acquisition System (208); Computer (209); generates greater thermoelectric power due to the stress applied on the cool side of the Thermoelectric Generator in water-based Cooling CTEG System.
2. Stress Test on Single Thermoelectric Cell in water-based Cooling CTEG System as claimed in claim 1, wherein variable supply voltage is applied at hot side to generate heat.
3. Stress Test on Single Thermoelectric Cell in water-based Cooling CTEG System as claimed in claim 1, wherein it uses water in cool side of the thermoelectric generator to produce temperature difference.
4. Stress Test on Single Thermoelectric Cell in water-based Cooling CTEG System as claimed in claim 1, wherein it contains two thermocouples on either side of the generator to measure the temperature.
5. Stress Test on Single Thermoelectric Cell in water-based Cooling CTEG System as claimed in claim 1, wherein weights are applied on cool side to create stress on cool side block.
6. Stress Test on Single Thermoelectric Cell in water-based Cooling CTEG System as claimed in claim 1, wherein stress by weights provides close contact between the hot side and cool side, also controls the water flow rate, increases the temperature difference.
7. Stress Test on Single Thermoelectric Cell in water-based Cooling CTEG System as claimed in claim 1, wherein increased temperature difference creates the increased thermal energy to thermoelectric energy.

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