TESS - THERMO-ELECTRIC HYBRID SOLAR SYSTEM

Goal of the project

The project relates to a solar thermal - electric hybrid, which produces hot water and electricity using thermoelectric modules.

Short description of the project

The system is composed of thermoelectric modules, and solar concentrator photovoltaic cells that convert heat to increase efficiency and reduce losses by convection, using a vacuum chamber that allows the positioning unit conversion at any position and allows adjusting the amount wastewater heat transferred by replacing hexagonal mirror solar concentrator photovoltaic.

Project implemented by

Department of Applied Electronics, Politehnica University Timisoara

Implementation period

03.01.2017 – 31.03.2018

Main activities

Mechanical system implementation
Full working prototype
Experimental validation
Final stage

Results

- 2 published Journal papers (Thomson Reuters WoS) IF>1.5, Q2 and Q3
- 2 ISI Journal papers (under review)
- 8 ISI conference papers
- 2 patents

Applicability and transferability of the results

- Effective solution for domestic use
- Tool for complex modeling, simulation and measurement
- Real time flow control

Financed through/by

Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI), Bucharest, Romania.(UEFISCDI), PN-III-P2-2.1-PED-2016-0074, 499.700 RON (110.800 EUR)

Research centre

Intelligent Electronic Systems, http://www.ccesi.etc.upt.ro/

Research team

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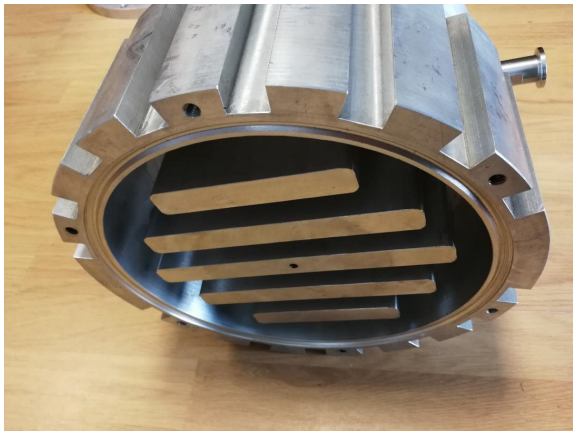

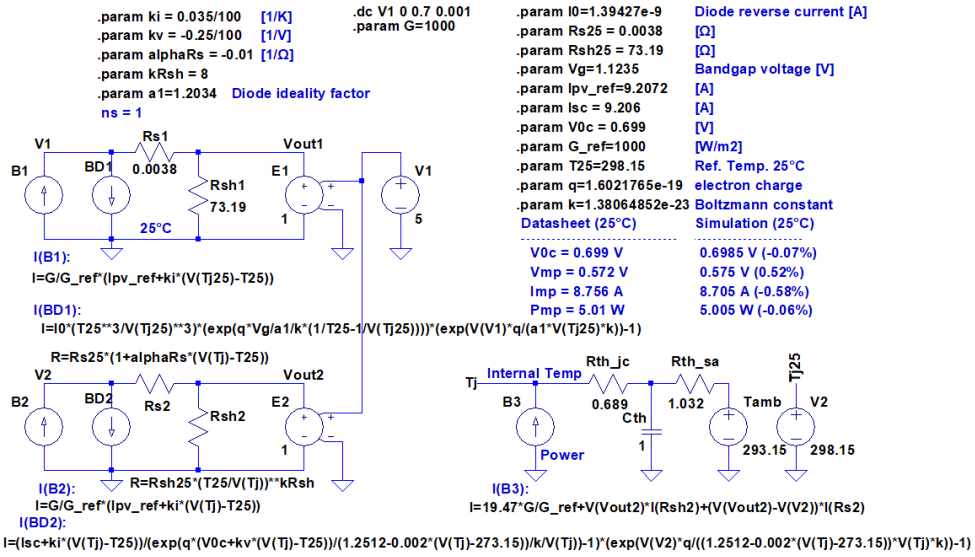

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