



First Laureate Applied Research



Project Title: Design and manufacture of γ type heat engine
(STIRLING)

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Abstract:

Heat in its various forms (Sun, Geo- thermal, ...) is one of the abundant energy resources available, but conversion of heat into other forms of energy are difficult. The idea of such engines was realized by Robert Stirling in early Nineteenth Century, but technological constraints postponed its development till recent decades.

Shortages of fossile fuels and the environmental contamination caused by its combustion in engines has earged researchers to develop relevant technologies. Engines working without lubricants at high pressures and elevated temperatures require novel technologies. In this project a single stroke, γ type engine with composite seal and special alloys working at high pressures and temperatures above 1200 has been realized. A special regenerator, with improved efficiency has also been developed.