



Extended Operation of Stirling Convertors at NASA Glenn Research Center

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BiblioGov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 26 pages. Dimensions: 9.7in. x 7.4in. x 0.1in. NASA Glenn Research Center (GRC) has been supporting development of free-piston Stirling conversion technology for spaceflight electrical power generation since 1999. GRC has also been supporting the development of the Advanced Stirling Radioisotope Generator (ASRG) since 2006. A key element of the ASRG project is providing life, reliability, and performance data for the Advanced Stirling Convertor (ASC). The Thermal Energy Conversion branch at GRC is conducting extended operation of several free-piston Stirling convertors. The goal of this effort is to generate long-term performance data (tens of thousands of hours) on multiple units to build a life and reliability database. Currently, GRC is operating 18 convertors. This hardware set includes Technology Demonstration Convertors (TDCs) from Infinia Corporation, of which one pair (TDCs 13 and 14) has accumulated over 60,000 hr (6.8 years) of operation. Also under test are various Sunpower, Inc. convertors that were fabricated during the ASC development activity, including ASC-0, ASC-E (including those in the ASRG engineering unit), and ASC-E2. The ASC-E2s also completed, or are in progress of completing workmanship vibration testing, performance mapping, and extended operation....



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