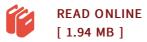




Design and Off-Design Performance of 100 Kwe-Class Brayton Power Conversion Systems

By -

BiblioGov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 26 pages. Dimensions: 9.7in. x 7.4in. x 0.1in.The NASA Glenn Research Center in-house computer model Closed Cycle Engine Program (CCEP) was used to explore the design trade space and off-design performance characteristics of 100 kWe-class recuperated Closed Brayton Cycle (CBC) power conversion systems. Input variables for a potential design point included the number of operating units (1, 2, 4), cycle peak pressure (0. 5, 1, 2 MPa), and turbo-alternator shaft speed (30, 45, 60 kRPM). The design point analysis assumed a fixed turbine inlet temperature (1150 K), compressor inlet temperature (400 K), working-fluid molecular weight (40 gmol), compressor pressure ratio (2. 0), recuperator effectiveness (0.95), and a Sodium-Potassium (NaK) pumpedloop radiator. The design point options were compared on the basis of thermal input power, radiator area, and mass. For a nominal design point with defined Brayton components and radiator area, off-design cases were examined by reducing turbine inlet temperature (as low as 900 K), reducing shaft speed (as low as 50 of nominal), and circulating a percentage (up to 20) of the compressor exit flow back to the gas cooler. The off-design examination sought approaches to reduce...



Reviews

Merely no words and phrases to describe. I am quite late in start reading this one, but better then never. I found out this ebook from my i and dad encouraged this pdf to find out.

-- Hyman Auer

I actually started out looking over this publication. It can be writter in easy phrases and never difficult to understand. Your lifestyle span will probably be transform as soon as you comprehensive looking over this ebook.

-- Prof. Dayne Crist Sr.