



Infrared Heater Used in Qualification Testing of International Space Station Radiators

By Robert a Ziemke

Bibliogov, United States, 2013. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book ***** Print on Demand *****.Two heat rejection radiator systems for the International Space Station (ISS) have undergone thermal vacuum qualification testing at the NASA Glenn Research Center (GRC), Plum Brook Station, Sandusky, Ohio. The testing was performed in the Space Power Facility (SPF), the largest thermal vacuum chamber in the world. The heat rejection system radiator was tested first; it removes heat from the ISS crew living quarters. The second system tested was the photovoltaic radiator (PVR), which rejects heat from the ISS photovoltaic arrays and the electrical power-conditioning equipment. The testing included thermal cycling, hot- and cold-soaked deployments, thermal gradient deployments, verification of the onboard heater controls, and for the PVR, thermal performance tests with ammonia flow. Both radiator systems are orbital replacement units for ease of replacement on the ISS. One key to the success of these tests was the performance of the infrared heater system. It was used in conjunction with a gaseous-nitrogen-cooled cryoshroud in the SPF vacuum chamber to achieve the required thermal vacuum conditions for the qualification tests. The heater, which was designed specifically for these tests,...



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