The Mid-Infrared Instrument for the James Webb Space Telescope, II: Design and Build - DTU Orbit (18/11/2019)

The Mid-Infrared Instrument (MIRI) on the James Webb Space Telescope (JWST) provides measurements over the wavelength range 5 to 28.5 µm. MIRI has, within a single "package," four key scientific functions: photometric imaging, coronagraphy, single-source low-spectral resolving power (R similar to 100) spectroscopy, and medium-resolving power (R ∼ 1500 to 3500) integral field spectroscopy. An associated cooler system maintains MIRI at its operating temperature of <6.7 K. This paper describes the driving principles behind the design of MIRI, the primary design parameters, and their realization in terms of the "as-built" instrument. It also describes the test program that led to delivery of the tested and calibrated Flight Model to NASA in 2012, and the confirmation after delivery of the key interface requirements.

General information
Publication status: Published
Organisations: National Space Institute, Mechanical Engineering, Astrophysics, ESTEC, Centre Spatial de Liège, Johns Hopkins University, University of Arizona, ASTRON, University Paris Diderot - Paris 7, Instituto Nacional de Tecnica Aeroespacial, Dublin Institute for Advanced Studies, NASA Goddard Space Flight Center
Pages: 595-611
Publication date: 2015
Peer-reviewed: Yes

Publication information
Volume: 127
Issue number: 953
ISSN (Print): 0004-6280
Ratings:
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 3.39 SJR 2.846 SNIP 1.192
Web of Science (2015): Impact factor 4.422
Web of Science (2015): Indexed yes
Original language: English
Keywords: Space vehicles: instruments, instrumentation: photometers, instrumentation: spectrographs
Electronic versions:
1508.02333v1.pdf
DOIs:
10.1086/682253

Bibliographical note
For full list of authors, consult the publication
Source: FindIt
Source ID: 2265852507
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review