

Date: Tue, 15 Aug 2000 15:06:22 -0700
To: europto@associationhq.com
From: Carol.J.Bruegge@Jpl.Nasa.Gov
Subject: 4169-08 final abstract, Barcelona
Cc: djd
Bcc:
X-Attachments:

4169-08

In-flight calibration of the EOS/ Multi-angle Imaging SpectroRadiometer (MISR)
Carol J. Bruegge, Brian G. Chafin, Nadine C.L. Chrien, David J. Diner, Robert
R. Ando (Jet Propulsion Laboratory, Pasadena, CA, USA)

The Multi-angle Imaging SpectroRadiometer (MISR) was launched into orbit
December 1999 as part of a larger payload on-board the Terra spacecraft. MISR
consists of nine Earth viewing cameras, as well as a sophisticated on-board
calibrator. Spectralon panels are deployed at monthly intervals, and reflect
sunlight into the cameras to be tested. The camera-incident radiance is known
via photodiode detectors, which are built into the flight instrument and serve
as the standard to which all MISR radiance products are traced. In order to
maintain the quality of the derived geophysical products, the instruments
radiometric response is periodically measured with this hardware. If a change
is detected, new response coefficients are delivered to the data processing
center, where they are used in the science data production. This paper
reports on results obtained during the first six months of mission operation.
A post-launch re-calibration of the photodiode standards has allowed improved
band-to-band and camera-to-camera calibration of the cameras, as compared to
the preflight determination. In addition, desert targets are used to
independently track the stability of the cameras, and vicarious calibration
experiments allow validation of the radiometric calibration.