

Title: ACTIVE CAVITY RADIOMETER (ACR)

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Short Description: The ACR measures the total solar irradiance to determine the magnitude and direction of variations in the total solar radiative output. The ACR is an electrically self-calibrating cavity pyroheliometer capable of measuring the total solar irradiance with an absolute accuracy better than 0.2 percent and capable of detecting changes in the total irradiance smaller than 0.001 percent. The data will be used to study the physical behavior of the Sun and the Earth's climate.

Instrument Characteristics:

Mass: 20 kg  
Volume: 0.3 cubic meters  
Power: 15 watts  
Data Rate: 0.2 kbps  
Pointing: Direction: Sun center; Accuracy: better than 2 deg

General Comments: The ACR has flown successfully on the Solar Maximum Mission and on STS Missions.

For more information, contact: Dr. Richard Willson, Jet Propulsion Laboratory

