

Cassini-CIRS Observations of Saturn's Rings and Icy Satellites

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The CIRS instrument onboard the Cassini spacecraft has opened a new window on icy Saturn's rings and satellites. With its three very sensitive focal planes covering the infrared wavelength domain from 7 to 1000 μm , it is able to detect most of their thermal emission. Its 10-pixels-wide mid-infrared focal plane FP3 also provides pioneering thermal mapping of the moons and main rings. A lot can be learned from the temperature and emissivity variations exhibited by these spinning moons: the thermal and structural properties of the regolith they are covered with, the local dynamics and spinning properties of the yet unresolved ring colliding balls, their composition, etc. . . . I will review recent results obtained by the CIRS instrument on Saturn's rings, Phoebe, Iapetus and Enceladus moons after a first season of revolutions of the spacecraft out of the ring plane.