The Rings of Saturn and Cassini Discoveries

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Saturn's Satellites and Ring Structure

All bodies are to scale except for Pan, Atlas, Telesto, Calypso and Helene, whose sizes have been exaggerated by a factor of 5 to show rough topography.
Ring Particle Models
Satellite Influence on Ring Particle

T = 0

T = 1/2 orbit
Satellite Influence -- II

T = 1 orbit

Pull on ring particle after many orbits
* B ring outer edge is at Mimas 2:1 Resonance
Outer Edge of B Ring

Voyager Image
Density Wave– 5:4 Resonance

- Density Wave Crest
- Trough
- Resonance Radius
- Satellite
Bending Wave Graphic
Density and Bending Waves
F Ring
Encke Gap
Cassini Visual and Infrared Mapping Spectrometer

grain-size composite

small | large
Cassini Magnetospheric Imager Discovers Radiation Belt Inside Saturn’s Rings

New Radiation Belt

Main Radiation Belt

D-ring Inner Edge

Magnetic field lines
Grab a Ring-side seat and explore Saturn with us!

http://saturn.jpl.nasa.gov