

Observed structures at the edges of Saturn's rings

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Abstract

The edges of Saturn's rings exhibit structure on a range of spatial and temporal scales. Aside from the known variability in edge location many edges feature clumping on orbital timescales. In cases like the B and A ring outer edges even larger, more persistent objects have been observed. Most of these features and the underlying physical processing creating them have been associated with moon-induced perturbations.

In addition to moon-associated structures like wakes and gaps at the Encke and Keeler gap due to the presence of Pan and Daphnis respectively, parts of ring material is found truncated from the edges downstream of the moon. These gaps are about a few km wide and located a few tens of km from the edge.

Using primarily Cassini UVIS occultations we investigate spatial and temporal morphology of ring edges.

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