

<http://www.coincoin.fr.eu.org/?Cassini-RPWS-Data-Janus-Epimetheus-Ring-Crossing>



Cassini RPWS Data : Janus-Epimetheus Ring Crossing

- 6- Webographie -

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The sounds and spectrograms in this video represent data collected by Cassini's Radio and Plasma Wave Science (RPWS) instrument as the spacecraft made a dive through the faint, dusty Janus-Epimetheus ring on December 18, 2016.

As tiny, dust-sized particles strike Cassini and three RPWS antennas, the particles are vaporized into tiny clouds of plasma. These tiny explosions make a small electrical signal that RPWS can detect.

Researchers on the RPWS team convert the data into visible and audio formats for analysis. Ring particle hits sound like pops and cracks in the audio.

The colors on the spectrogram indicate the emitted power of the radio waves, with red as the most powerful. Time is on the x-axis, and frequency of the radio waves is on the y-axis.

As is typical for this sort of ring crossing, the number of audible pops and cracks rises to a maximum around the time of a ring crossing and trails off afterward. The peak of the ring density is obvious in the colored display at the red spike.

In comparing this dataset with data from the April 26 dive, it is apparent that while Cassini detected many ring-particles striking it when passing through the Janus-Epimetheus ring, the first 'Grand Finale' crossing "in stark contrast" was nearly particle free.

Credit : NASA / JPL-Caltech / University of Iowa.

Article : sci-news.com/space/dust-free-region-saturn-rings-04825.html

Cast : Sci-News.com

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