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Saturn's F Ring: Simulations and Observations by Cassini UVIS

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Since the Saturn orbit insertion in July 2004, the Ultraviolet Imaging Spectrograph (UVIS) aboard the Cassini spacecraft obtained 48 stellar occultations of Saturn's F ring with spatial resolutions ranging between a few and hundred meters. Structural changes in time are apparent in the data and confirm the F ring's reputation as one of the most dynamic structures observed in the rings. The observed peak normal optical depth ranges between 0.1 and 5, while the equivalent width (radially integrated optical depth) varies between 5 and 60 km. Results from numerical simulations are presented and compared to the UVIS data.