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# Advances in strong scintillation modelling by using the refractive scattering mechanism

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Transionospheric radio signals may experience fluctuations in their amplitude and phase due to irregularity in the spatial electron density distribution, referred to as scintillation.

Strong intensity scintillations are here interpreted and modelled by means of refractive scattering. Advances in the modelling technique are introduced and compared to experimental events observed on radio signals at 150 MHz and 400 MHz transmitted coherently from Tsykada beacon satellites.

The observed intensity spectra fit the shape of theoretical predictions of the refractive theory. From the spectral analysis of these events, useful insights about the spectral slope, the Fresnel scale, and the scale of irregularities producing the observed intensity scintillations actually present in the ionosphere may be deduced.