

Hybrid Propagation Models for Broadcast Coverage Predictions and Spectrum Management

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Thousands of path profiles incorporated into the ITU-R Correspondence Group 3K-1 (ITU-R CG3K-1) and the Institute for Telecommunication Sciences (ITS) databases will be described. Models that estimate diffraction effects on the propagation of radio waves over irregular terrain in the VHF and UHF bands available for digital broadcast applications (T-DAB and DVB-T) will be used to predict field strengths that will be compared with those from the corresponding measurements. The mean value and the standard deviation of the difference between predictions and measurements will be presented for each model, as functions of their number of main obstacles. A better basis for comparison between predictions and experimental data was obtained from a special measurement series performed by HTI to determine the height function of the received field strength. These measurements will be described, also compared with model predictions and statistically analyzed.

