

# Comparison of a UTD-PO Formulation for Multiple Diffraction of Rectangular Obstacles with Measurements in the Millimetre-Wave Frequency Band

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**Abstract:**

In this paper, a hybrid uniform theory of diffraction-physical optics (UTD-PO) formulation for the analysis of the multiple-diffraction of spherical waves by a series of rectangular plateaux is compared with measurements performed at 60 GHz. The comparison shows a solid agreement between predicted and measured results, therefore validating the use of such UTD-PO solution in the study of wireless communication systems located at the 60 GHz frequency-band where multiple-diffraction over rectangular obstacles has to be taken into account. Furthermore, as an application of this work, since the array of plateaux under study can be considered as a scaled-model of an urban environment, results support the validity of the proposed UTD-PO formulation in the analysis of urban radiowave propagation.