

A Fractal Approach of the Electromagnetic Waves Propagation over the Landscape

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In the existing propagation model, the electromagnetic phenomena are divided in effects due to the curvature of the Earth, and shadow effects due to the geographic obstacles. The propagation function over the curvature of the Earth is based on semi-empirical relations and takes into account the radiated power and its frequency, the effective height of the emitting antennae, the distance between the fix and mobile station, and the type of soil existing near the mobile terminal. The purpose of this investigation is to improve the propagation model of the electromagnetic field generated by an antennae of 900 MHz in a mountain environment (considering and the reflections influence), taking into account the self similar structure of the relief.