

A Ray Based Method to Evaluate Scattering by Vegetation Elements

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Abstract:

Contributions from trees may represent an important part of wireless communication channels in outdoor environments. For this reason, a simple ray-based model for scattering by tree branches has been developed and implemented in a pre-existent Ray-Tracing tool. In addition to the new rays created by scattering, an empirical attenuation model has also been implemented. Simulations have been validated with measurements in a campus scenario where several trees were present alongside the propagation environment. Received power results show an increase in accuracy when accounting for trees.