An Analytical 3D Ray-Launching Method Using Arbitrary Polygonal Shapes for Wireless Propagation Prediction

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Abstract:

An analytical 3D ray-launching method using arbitrary polygonal shapes for wireless propagation prediction is introduced within this document. The algorithm is significantly advanced compared to other ray-launching techniques, since the actual ray-casting methodology is based on vertices of the geographical data and not on a brute-force manner which most often leads into irrelevant directions in space. As a valu-able feature, the herein presented approach does not rely on any kind of spatial resolution. It is neither limited to certain discrete angle increments like conventional ray-launching, nor is it suffering from low resolutions or the need for sub-sampling like conventional ray-tracing.