**Stochastic Geometry Based Coverage Estimation Using Realistic Urban Shadowing Models**

The main contribution of this paper consists in integrating a physically correlated shadowing model of the aggregate interference in a stochastic geometry-based approach. The considered shadowing takes place in a Manhattan urban grid and combines both penetration and corner diffraction when modeling signal transmission from base stations to users. A tractable expression for the network coverage probability is obtained thanks to the framework of stochastic geometry. Our initial results suggest that the diffracted mechanisms are dominant compared to building penetration.

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