Abstract

An accurate modeling of multiple-input multiple-output (MIMO) channels is a prerequisite for designing multi-antenna system. In this paper, we propose a geometrical mixed-bounce two-ring deterministic model for mobile-to-mobile channel considering the non-isotropic scattering while adopting the Von Mises probability density function for both the angle of departure AoD and angle of arrival AoA surrounding the transmitter and receiver respectively. Beginning with isotropic scattering, the expression for two dimensional (2-D) space time cross-correlation (STCC) function between any two sub channels is derived. Comparison between the statistical properties of the deterministic model under the assumption of non-isotropic scattering with that of the reference model indicates a good agreement, thus, the importance of this model. The result obtained is in conformity with that of the double bounce and single bounce two ring models.


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Index Terms

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