Focused and collimated Gaussian laser beam scintillation in weakly turbulent marine atmospheric medium

Ahmed A. Abbas, Hamza Gerçekcioğlu, H. Haldun Göktaş

Abstract:

The scintillation index on the axis for Gaussian beams focused and collimated in weak marine turbulence is formulated via the usage of Rytov method. The average bit error rate is evaluated using this formulation. The scintillation index and versus propagation distance and source size are determined by using the log-normal distributed. Intensity for the collimated and focused. Gaussian beams, which are exhibited for wavelength, source size, focal length, and. The focused beams are revealing more advantageous than collimated beams in an atmospheric marine environment. The findings of this study are significant for optical communication system performance in this layer.

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