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-Strehl ratio, divergence, M2 factor –What is good for describing the propagation of a diffracted laser beam?

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Abstract content
(Max 300 words)
Special Chars

We consider the transverse characteristics of a laser beam suffering amplitude or phase diffraction. In particular, we consider the correlation or the absence of correlation between the parameters divergence angle, Strehl ratio and M2 factor usually used for describing the focusability of a laser beam. We will also introduce the concept of transverse correlation of a laser beam. We will give concrete examples for which the information holds by the above parameters is contradictory, and can disturb for instance the monitoring of a distributed lensing effect or the determination of the focal volume.

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