Power Flow in Graded-Index Plastic Optical Fibers

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***Abstract*—A method is proposed for predicting the evolution of the power distribution along graded-index plastic optical fibers. This method is verified against our recently reported measurements. The strong influence of mode coupling on the power distribution is demonstrated on a specific graded-index plastic fiber to illustrate the influence of mode coupling in applications, such as data transmission, power delivery, and sensing systems.**

***Index Terms*—Equilibrium mode distribution, graded-index optical fiber, mode coupling, power flow equation.**

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