Abstracts

A New Method of Pulse Dispersion Analysis for Simple-Mode Optical Fibers

P.S.M. Pires, D.A. Rogers, E.J. Bochove and R.F. Souza. "A New Method of Pulse Dispersion Analysis for Simple-Mode Optical Fibers." 1981 MTT-S International Microwave Symposium Digest 81.1 (1981 [MWSYM]): 86-88.

Numerical methods of differentiation and interpolation were used to develop a method for the analysis of pulse dispersion in single-mode optical fibers based on solutions of the exact characteristic equation. Exact formulas for the necessary parameters are developed up to the point were computational procedures were recommended due to analytical complexity. Curves showing comparisons between our method and those showing the best asymptotic approaches are presented. This method permits greater precision in prediction of the ideal laser wavelength for use with a given single-mode optical fiber.

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