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## Modeling the optical dielectric function of GaAs and AIAs: Extension of Adachi's model

 Aleksandar D. Rakić and Marian L. Mejrowitz  
 University of Queensland, Department of Electrical and Computer Engineering, St. Lucia QLD4072, Brisbane, Australia

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Optical dielectric function model of Ozaki and Adachi [*J. Appl. Phys.* **78**, 3380 (1995)] is augmented by introducing Gaussian-like broadening function instead of Lorentzian broadening. In this way a consistent and comparatively simple analytic formula has been obtained, which accurately describes the optical dielectric function of GaAs and AIAs in a wide spectral range between 0.1 and 6 eV. The acceptance-probability-controlled simulated annealing technique was used to fit the model to experimental data. © 1996 American Institute of Physics.

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### KEYWORDS and PACS

#### Keywords

GALLIUM ARSENIDES, ALUMINIUM ARSENIDES, DIELECTRIC FUNCTION, MATHEMATICAL MODELS, LINE BROADENING, ANNEALING, OPTICAL CONSTANTS

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