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OPTICAL CONSTANTS OF HEXAGONAL GaN AND InN

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Optical constants of hexagonal GaN (in the range 1.5-10 eV) and InN (in the range 2-10 eV) are modeled using modified Adachi's model of optical properties of semiconductors. The employed model uses an adjustable broadening function instead of the conventional Lorentzian one, so that broadening can vary over a range of functions with similar kernels but different wings. Hence, excellent agreement with the experimental data is obtained; the relative rms errors for the real part of the index of refraction are below 2% for both materials, and for the imaginary part below 5% for GaN and below 3% for InN.