## Optical Bistability and its Computation

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## Abstract

For a nonlinear medium, a given incident laser beam may produce different transmitted light waves. This phenomenon (the so-called optical bistability) corresponds to multiple solutions of the boundary value problems of the non-linear Helmholtz equation. Optical bistability can be useful in the design of optical switches. We describe some numerical methods for analyzing optical bistability in multilayer structures with Kerr nonlinearity.