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Equations of Pulse Propagation in Three-Layer Structure of As2S3 Chalcogenide Plasmonic Nano-Waveguides

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Abstract : This research aims at obtaining the equations of pulse propagation in nonlinear plasmonic waveguides created with As₂S₃ chalcogenide materials. Via utilizing Helmholtz equation and first-order perturbation theory, two components of electric field are determined within frequency domain. Afterwards, the equations are formulated in time domain. The obtained equations include two coupled differential equations that considers nonlinear dispersion.

Keywords : nonlinear optics, plasmonic waveguide, chalcogenide, propagation equation
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