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Title

GaSe_{1-x}S_x and GaSe_{1-x}Te_x thick crystals for broadband terahertz pulses generation

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Abstract

We demonstrate the possibility of broadband THz pulse generation in mixed GaSe_{1-x}S_x and GaSe_{1-x}Te_x crystals. The ordinary and extraordinary refractive indices of the crystals have been measured by the terahertz time-domain spectroscopy method, those values strongly influence the efficiency of THz generation process. The high birefringence and transparency of pure GaSe and mixed crystals allow optical rectification of femtosecond laser pulses in the several millimeters thick crystal using the eee interaction process (with two pumping waves and generated THz wave all having extraordinary polarization in the crystal). (17 References).