WeW1-17 *Invited* 18:15-18:45

Monocrystals for nonlinear frequency conversion to the mid-IR above 4 μm

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Since solid state lasers obviously cannot directly cover the spectral range above 3 μm in the mid-IR, there is a need for improved nonlinear optical crystals that can shift the output of widely-used high-power diode-pumped laser systems, such as Nd:YAG, to wavelengths in the 3-12 μm spectral range and ensure tunability. In this report the analysis of properties of available nonlinear crystals is given to optimize their usage as nonlinear convertors to the mid IR.

WeW1-18 18:45-19:00

The influence of growth conditions on the optical uniformity of KTP crystals

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Abstract is not available.

WeW1-19 19:00-19:15

Digital multi-colour picosecond holographic spectroscopy of nonlinear- optical crystals

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Multi-colour digital holographic interferometry for dynamic measurement of volume and surface nanoscale heterogeneities caused by the intensity-induced refraction index changes in nonlinear crystals has been applied. Separation of the photorefractive and fast nonlinearity contributions, nonlinear refraction index dispersion analysis under frequency tuned laser radiation, and measurement of parameters of dynamic surface nanostructures induced by an external field have been shown.

WeW1-20 19:15-19:30

Fluoride nanoceramics for lasers

K. V. Dukelsky[1], *I. A. Mironov*[1], *A. N. Smirnov*[1], *E. A. Garibin*[2], *A. A. Demidenko*[2], *V. V. Osiko*[3], *P. P. Fedorov*[3], *T. T. Basiev*[3], *S. V. Kuznetsov*[3], *R. V. Gajnutdinov*[4]
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Abstract is not available.

WeW1-21 19:30-19:45

Generation and manipulation of the optical radiation by the two- dimensional photonic crystals with active dielectric and metal nanoroads

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We presented the theoretical and numerical approach to the computation of the optical characteristics of two-dimensional photonic crystal structure with active medium and metallic nano-roads. The results of calculations of the spectral characteristics of those structures will be presented. The lazing optimum condition is determined for 2D PC with active medium. The plane wave expansion method has been used.

WeW1-22 19:45-20:00

Investigation of laser writing efficiency in bulk As_2S_3 samples on base of temperature modeling

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Laser writing under the CW and pulsed laser irradiation was realized. Modeling of temperature profile was fulfilled on base of thermal conductivity equation. The results of the modeling allow one to distinguish between thermal and photolytic mechanisms of laser-induced structure modification and as a result to improve the efficiency of laser writing.

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