S1-2.10

Me-ZnP_2 Diodes Sensible to Optical Gyration

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Spatial dispersion in ZnP_2-D_4^8 has been studied. The spectral dependences of the refractive index n^c ($E \| c$, $k \| a$), n^a ($E \| a$, $k \| c$) and n^b ($E \| b$, $k \| c$) had been determined. It was shown that the dispersion is positive n^c($E \| c$, $k \| a$), n^a ($E \| a$, k$\|$c) $> n^b$($E \| b$, $k \| c$) in $\lambda > \lambda_0$ region, the dispersion is negative n^c ($E \| c$, $k \| a$) at $\lambda < \lambda_0$, and $\Delta n = n^c - n^b = 0$ at $\lambda = \lambda_0$. The LIV characteristics of *Me-* ZnP_2-D_4^8 diodes had been studied at different temperatures, the temperature dependences of the "imperfection" factor δ for different Schottky barriers. Capacitance voltage characteristics of *Me-* ZnP_2-D_4^8 photodiodes obtained by electrochemical deposition of metal and by thermo-chemical spraying in vacuum had been studied. The influence of birefringence and gyration on spectral characteristics of *p-n* photodiodes and Schottky diodes had been revealed. The ability of controlling photodiodes' characteristics was obtained using the gyration particularities in ZnP_2-D_4^8 crystals.

S1-2.11

The Influence of the External Magnetic Field on the Electronic Density of States of Quasi-1D System in the Mixed Phase of Superconductivity and Spin Density Wave

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A method for calculating the electronic density of states in the mixed phase: superconductivity (SC) and the magnetic state of the spin-density wave (SDW) is proposed. The main mechanism for the appearance of this phase is considered the doping of the system and allowance for the lattice structure (Umklapp processes). The effect of an external magnetic field and the possibility of increasing the superconducting transition temperature T_c are analyzed.