KULYUK, Leonid, NEDEOGLO, Dmitrii, NEDEOGLO, Natalia et al. Magnetic and luminescent properties of iron-doped ZnSe crystals. In: Physica B: Condensed Matter. 2010, Vol. 405, Issue 20, pp. 4330-4334. ISSN 0921-4526.

Magnetic and luminescent properties of ZnSe crystals doped with Fe by various methods are studied. It is established that Fe impurity is responsible for photoluminescence (PL) bands at 980, 1320, 1450 nm and quenches PL band at 630–645 nm. It is found that magnetic properties of ZnSe:Fe crystals are sensitive to the doping method. At low fields, two magnetic subsystems may be observed for the samples doped with Fe during the growth process—weak paramagnetic subsystem and antiferromagnetic subsystem with T_C=–130 K. For the samples doped with Fe by high-temperature annealing in Zn melt, few magnetic subsystems may be distinguished, however, the magnetic properties are typical for spin glasses with the transition temperature T_{sg}=(45–50) K.