## IR luminescence of Fe<sup>2+</sup>: ZnSe single crystals excited by an electron beam

A A Gladilin<sup>1</sup>, E S Gulyamova<sup>1</sup>, V P Danilov<sup>1</sup>, N N Il'ichev<sup>1</sup>, V P Kalinushkin<sup>1</sup>, I N Odin<sup>2</sup>, P P Pashinin<sup>1</sup>, R R Rezvanov<sup>3</sup>, A V Sidorin<sup>1</sup>, M I Studenikin<sup>1</sup>, V A Chapnin<sup>1</sup> and M V Chukichev<sup>2</sup>

Quantum Electronics (2016),46(6):545 http://dx.doi.org/10.1070/QEL16119

## **Abstract**

Spectral-kinetic characteristics of the cathodoluminescence of  $Fe^{2+}$ : ZnSe single crystals are studied at T="300" and 80 K. These characteristics correspond to the IR luminescence spectrum and kinetics of  $Fe^{2+}$  ions in ZnSe crystals optically excited into the impurity absorption band. The obtained results open a real possibility of pumping  $Fe^{2+}$ : ZnSe lasers by hot electrons.

<sup>&</sup>lt;sup>1</sup> A M Prokhorov General Physics Institute, Russian Academy of Sciences, Moscow

<sup>&</sup>lt;sup>2</sup> Faculty of Physics, Lomonosov Moscow State University

<sup>&</sup>lt;sup>3</sup> National Research Nuclear University "MEPhI", Moscow