



Optica Applicata 2008(Vol.38), No.1, pp. 203-210

Energy transfer from Cr^{3+} to Nd^{3+} and NIR luminescence of Nd^{3+} in lead borate glasses

Joanna Pisarska

SEARCH

[Advanced search](#)

[About Optica Applicata](#)

[Current issue](#)

[Browse archives](#)

[Search](#)

[Editorial Board](#)

[Instructions for Authors](#)

[Ordering](#)

[Contact us](#)

Keywords

lead borate glasses, Cr^{3+} and Nd^{3+} ions, energy transfer, optical properties

Abstract

Energy transfer processes from Cr^{3+} to Nd^{3+} and NIR luminescence of Nd^{3+} ions at 1.06 μm in Cr-Nd co-doped lead borate glasses have been investigated. The spectroscopic investigation indicates that Cr^{3+} ions are located at strong-field and weak-field sites. Replacing PbO by PbF_2 in lead borate glasses slightly influences the energy transfer processes between Cr^{3+} and Nd^{3+} and NIR luminescence of Nd^{3+} ions. The energy transfer process occurs in both oxide and oxyfluoride glass systems, which may be due to the thermally induced population of the 4T_2 excited state of Cr^{3+} ions and the participation of lattice phonons.



701.0 kB

[Back to list](#)

© Copyright 2007 T.Przerwa-Tetmajer All Rights Reserved 2007

stat4u

