

Optical behaviour of praseodymium-doped and praseodymium/ytterbium-co-doped double phosphates.

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Rok wydania

2008

Czasopismo

Journal of Alloys and
Compounds

Numer woluminu

451

Strony

158-164

DOI

10.1016/j.jallcom.2007.04.235

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

This work is devoted to spectroscopic study of Pr^{3+} ion in sodium double phosphate matrices. Absorption, reflection, emission and emission excitation spectra of praseodymium-doped and praseodymium/ytterbium-co-doped systems were measured at room and low temperature. The intensities of the electronic transitions for diluted systems were analyzed and related to the data of the pure undiluted compounds. The effects of concentration and temperature on intensities and the shapes of the observed bands were considered. Radiative transition probabilities were calculated from absorption spectra. The excited states dynamics will be discussed based on the decay time measurements. The effect of interactions between praseodymium and praseodymium/ytterbium ions on spectroscopic properties will be discussed.

Słowa kluczowe

Praseodymium, Ytterbium, Sodium double phosphates, Optical spectroscopy

Adres publiczny

<https://doi.org/10.1016/j.jallcom.2007.04.235>

Strona internetowa wydawcy

<http://www.elsevier.com>