

Spectroscopic properties of Pr-doped silica gel-glasses.

Autorzy

A. A. Boiko
E. N. Poddenezhny
E. Łukowiak
Wiesław Stręk
Jerzy Sokolnicki
Janina Legendziewicz

Rok wydania

1995

Czasopismo

Journal of Applied
Spectroscopy

Numer woluminu

62

Strony

629-635

DOI

10.1007/BF02606509

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

Silica glasses doped with active ions are important for developing quantum electronic devices due to their high thermal shock resistance and relatively low nonlinear refractive index n_2 in comparison with silicate and phosphate glasses. Such glasses doped with Nd ions could be a good candidate for powerful lasers. However, an important limitation of Nd-doped silica glasses is the low solubility of active ions in the traditional melting-casting process. A significant enhancement of Nd concentration can be achieved by the sol-gel technique. Such glasses were recently prepared by Pope and Mackenzie [1] and Fujiyama et al. [2]. The latter authors have shown that silica gel glass codoped with Al₂O₃ have significantly improved optical properties. This is due to the fact that codoping by Al₂O₃ significantly decreases the microscopic clustering of Nd³⁺ ions. Recently it was demonstrated [3] that silica gel glasses can be efficiently doped with active ions by impregnation of xerogel,

Adres publiczny

<https://doi.org/10.1007/BF02606509>

Strona internetowa wydawcy

<http://link.springer.com>