Structural and optical characterisation of ZnO nanocrystals embedded in bulk KBr single crystal

Authors
O Halimi, B Boudine, M Sebais, A Chellouche, R Mouras, A Boudrioua

Publication date
2003/12/15

Journal
Materials Science and Engineering: C

Volume
23

Issue
6-8

Pages
1111-1114

Publisher
Elsevier

Description
The ZnO nanocrystals (NCs) embedded in KBr single crystal matrix has been fabricated using the Czochralski (Cz) method. X-ray diffraction has confirmed the embedding of ZnO nanocrystals inside the bulk KBr matrix. A blue shift of the absorption edge of the obtained samples has been observed. Moreover, ZnO nanocrystals embedded in bulk KBr single crystals, present photoluminescence (PL) bands, at 1.6 K, associated with free and bound excitons. These results confirm that bulk KBr single crystal is a suitable matrix-host for ZnO nanocrystals.