Contribution ID: 22

Type: Poster

## Molten salt synthesis of Bi2WO6:Eu

Friday, November 8, 2024 5:01 PM (3 minutes)

Bismuth –containing oxide materials have been attraction much attention as phosphors for light emitting diodes and other devices. Among them these ones containing tungsten are rarely studied due to a low chemical activity of tungsten compounds and high velocity evaporation of WO3 under thermal treatment. Currently, Bi2WO6 have been attracting significant attention as optical materials/phosphors due to the strong absorption of light by molecular WO4/WO6 anions in the vacuum ultraviolet (VUV) and ultraviolet (UV) spectral regions and further excitation energy transfer to the RE ions and intensive luminescence of the last ones. Herein, a molten salt approach has been developed to obtain high quality single crystals Bi2WO6 doped with Eu3+ Single crystals have been grown from a high temperature solution containing Na2WO4 as an inert flux. The crystals prepared has been characterized by means of powder X-Ray diffraction, scanning electron microscopy, energy-dispersive X-ray spectroscopy analysis, and infrared spectroscopy (IR). The peculiarities of luminescence spectra of Bi2WO6 has been studied under UV excitation under room temperature.

## Type of presence

Presence at Taras Shevchenko National University

Primary author: Mr ORIEKHOV, Stanislav (Taras Shevchenko National University of Kyiv)

**Co-authors:** Dr TEREBILENKO, Kateryna (Taras Shevchenko National University of Kyiv); Dr SLOBODYANIK, Mykola (Taras Shevchenko National University of Kyiv)

**Presenters:** Dr TEREBILENKO, Kateryna (Taras Shevchenko National University of Kyiv); Mr ORIEKHOV, Stanislav (Taras Shevchenko National University of Kyiv)

Session Classification: Poster Session