Synthesis of Graphitic Carbon Nitride in Porous Silica Glass

E. B. Chubenko [1],

A. V. Baglov [2],

E. S. Lisimova [3],

V. E. Borisenko [4]

2019

1, 2, 3, 4 R&D Department, Center 4.11 "Nanoelectronics and new materials", Department of Micro- and Nanoelectronics, Belarusian State University of Informatics and Radioelectronics, Minsk, Belarus

Keywords: Graphitic carbon nitride, Macroporous silica glass, Photoluminescence.

Abstract: We developed and studied facile synthesis of graphitic carbon nitride in macroporous silica glass matrix. Melamine was used as a precursor. The synthesis was performed in a closed air ambience at 400–600 °C. It was found that the synthesized material was characterized with a broadband room-temperature photoluminescence in the range of 350–750 nm with the peak shifting from to 445 nm to 702 nm when the temperature of the synthesis was increased from 400 °C to 575 °C while the intensity of the luminescence was decreased. The nature of the

luminescent centers and possible applications of the synthesized material are discussed.

This article published in: Synthesis of Graphitic Carbon Nitride in Porous Silica Glass / E. B. Chubenko [and others] // International Journal of Nanoscience. – 2019. – Vol. 50, No 03-04. – P. 1940042-1 - 1940042-4. – https://doi.org/10.1142/S0219581X19400428.

Internet link to the article:

https://www.worldscientific.com/doi/abs/10.1142/S0219581X19400428.