Reviews on Advanced Materials and Technologies, 2023, vol. 5, no. 1, pp. 26–32
DOI: 10.17586/2687-0568-2023-5-1-26-32

Structural Properties of β-Ga_2O_3 Thin Films Obtained on Different Substrates by Sol-Gel Method

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Abstract. β-Ga_2O_3 thin films were obtained by the sol-gel method on sapphire and quartz substrates, as well as on Cu-O buffer layers. It was shown that the sol-gel method allowed to obtain β-Ga_2O_3 thin films with good optical and structural properties by using X-ray diffraction, scanning electron microscopy and optical spectroscopy. The energy of the optical band gap of Ga_2O_3 films calculated by the Tauc plot varied from 4.39 to 4.59 eV.

Acknowledgements. The study was carried out within the framework of the research program of the scientific school “Theory and practice of advanced materials and devices of optoelectronics and electronics” (sci. school 5082.2022.4).
The authors are grateful to A. M. Smirnov for constructive comments and substantial discussions of the results of this study.

Citation: Rev. Adv. Mater. Technol., 2023, vol. 5, no. 1, pp. 26–32

View online: https://doi.org/10.17586/2687-0568-2023-5-1-26-32

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