

POTLOG, Tamara, LUNGU, Ion, RAEVSCHI, Simion, BOTNARIUC, Vasile, ROBU, Stephan, WORASAWAT, Suchada, MIMURA, Hidenori. Electrical properties of thermal annealed in vacuum spray deposited Al-doped ZnO thin films. In: *IFMBE Proceedings*. Ediția a 4-a, 18-21 septembrie 2019, Chișinău. Switzerland: Springer Nature Switzerland AG, 2020, pp. 83-87. ISBN 978-303031865-9.

Al-doped ZnO thin films have been prepared by spray pyrolysis, which facilitates the incorporation of a higher percentage of dopant atoms. The vacuum thermally annealed at 420 °C temperature thin films have been characterized by X-ray diffraction (XRD), optical spectroscopy. Electrical conductivity and the Hall effect are investigated in the temperature interval (77–300) K. X-ray analysis results reveal that all the films are polycrystalline with a hexagonal wurtzite structure with a preferential orientation according to the direction (002) plane. Different characters of the temperature dependence of conductivity are observed in the Al-doped ZnO films vacuum thermally annealed at 420 °C temperature. In all cases, the conductivity, mobility carriers and carriers' concentration of ZnO thin films obtained under Ar are higher than under O₂ atmosphere, unless they are not doped. of your paper no longer than 300 words.