



Photophysical properties of Alq3 thin films

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Résumé en anglais	<p>This work contains investigation results of the photophysical properties of aluminum (III) tris(8-hydroxyquinoline) thin films. The Alq3 thin films were successfully fabricated by Physical Vapor Deposition technique. The films were grown on transparent: (quartz and glass) and semiconductor (n-type silica) substrates kept at room temperature during the deposition process. Selected films were annealed after fabrication in ambient atmosphere for 12 h at the temperature equal to 100 °C and 150 °C.</p> <p>Morphology of the films was investigated by AFM technique. Photophysical properties were characterized via photoluminescence, transmission, second and third harmonic generation measurements. The thin films exhibit high structural quality regardless of the annealing process, but the stability of the film can be improved by using an appropriate temperature during the annealing process. Photoluminescence of Alq3 films obtained in air were efficient and stable. The measurements of transmission, SHG and THG spectra allowed us to determine optical constant of the films. We find that the photophysical properties were strictly connected with the morphology and the annealing process significantly changes the structural properties of the films.</p>
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