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X Ray study of GZO thin films

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Ga:ZnO thin films (GZO) are studied in order to achieve good characteristics for optoelectronic devices. The purpose of this paper is to study the thin films proprieties grown by Pulsed Laser Deposition. Doped ZnO thin films were characterized structural and optical. X-ray diffraction measurements reveal a polycrystalline structure of films and doped ZnO films exhibit hexagonal wurtzite crystal structure. Thin films thicknesses are around 160 nm - 680 nm. The optical transmittance of GZO thin films is over 70%, which indicates possible applications for optoelectronic devices. Pulsed laser deposited for n-type transparent ZnO can be applied to optoelectronic devices in order to replace the conventional ITO and AZO films.

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