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Determination of the Trapping Parameters of ZnS Thin Films Developed by Chemical Spraying Technique

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Abstract: In this study, the thermoluminescence (TL) glow curves of ZnS thin films developed using chemical spraying technique were carefully investigated and its kinetic parameters were determined with a specially developed computer program. The results of investigations have shown that the trapping states of ZnS thin films could not be analysed by a well-known Randall-Wilkins (RW) or General-Order (GO) models. A detailed investigation of experimental results has indicated that the trapping states have a form that is best described by a distribution of energies. After the comparison of the experimental glow curves of ZnS thin films with theoretically generated glow curves, it was found that the distribution of traps is of an exponential type distribution.

Key Words: Thermoluminescence, Trapping Parameters, ZnS

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