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The Study of Copper Zinc Sulphide (CuZnS<sub>2</sub>) Thin Films

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**Abstract:** Thin films of CuZnS<sub>2</sub> were successfully deposited on glass substrates from aqueous solution of copper chloride in which EDTA and TEA were used as complexing agents. The optical and solid state properties were studied include: absorbance, transmittance, reflectance, extinction coefficient, refractive index, absorption coefficient, optical conductivity, dielectric constants. The direct and indirect band gaps obtained ranges from 2.2 eV to 2.4 eV for direct band gap and 0.4 eV to 0.9 eV for indirect band gap. The possible applications were also mentioned.

**Key Words:** Solution growth technique, characterization, CuZnS<sub>2</sub> thin film, band gap

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