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Synthesis and Characterization of Gold Thin Films EVAN WYATT, CONNOR LUCKETT, ANDRA PETREAN, Austin College, JESUS AVILA , CARLOS AVILA, MANUEL QUEVEDO-LOPEZ, University of Texas at Dallas — In this study, we investigated the properties of gold thin films. We synthesized samples thinner than 50 nm by physical vapor deposition onto glass substrates. We subsequently characterized the electrical properties of the thin films through Hall effect measurements. The optical properties were determined through spectroscopy measurements between 300 to 1,000 nm by recording transmission spectra and extracting the absorption coefficient of our samples, using the Beer-Lambert law. We consider a method of using the absorption coefficient to determine the thickness of thin films

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