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Determination of the Band Gap and Disorder Parameter of Water

Justin Myer

Illinois Wesleyan University

William Brandon, Faculty Advisor

Illinois Wesleyan University

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Poster Presentation P58

DETERMINATION OF THE BAND GAP AND DISORDER PARAMETER OF WATER

Justin Myer and William Brandon*
Physics Department, Illinois Wesleyan University

We have constructed an apparatus to measure Faraday rotation in liquids and other transparent materials. Using a theory from Mort and Scher relating the amount of rotation to the level of disorder and resonance frequency in amorphous materials, a prediction of the band gap of liquid water has been obtained. We find a band gap that is slightly lower than what has been obtained from previous experiments, but which is in agreement with current theoretical predictions by Cabral do Couto et al.