

Abstract Submitted
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Exploring the Depletion Layer: An Investigation into How Water Reacts when Confined to a Hydrophobic Surface ISAAC MARX, ADELE POYNOR, Allegheny College Physics Department — We observe water interacting with surfaces everyday. It forms spherical drops on hydrophobic surfaces, such as a freshly waxed car, and it spreads out on hydrophilic surfaces. However, water acts much differently when it is confined to a hydrophobic area. In our experiment, Surface Plasmon Resonance (SPR) is utilized to find differences in surface conditions. Tests are done for the interface of a hydrophobic surface surrounded by water and also for a hydrophobic surface surrounded by methanol, which we know will not form a depletion layer. With this data we are able to analyze the optical properties of the depletion layer in much greater detail.

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