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Home-built Surface Plasmon Resonance Apparatus for Studying Interactions Between Water and a Hydrophobic Surface DYLAN MCNANY, ERIN BROWN, SHANNON PETERSEN, ADELE POYNOR, Allegheny College — Water acts in many anomalous ways, especially when near a hydrophobic surface. Surface plasmon resonance (SPR), a quantum optical method is used to study these unusual effects. Through the use of SPR, studies of the depletion layer (a very thin low-density layer, only a few nanometers thick) can be conducted. Employing a home-built SPR device, along with a monolayer coated gold slide, studies are conducted using a variety of differing dielectrics (water, air, methanol). Modifications of the SPR apparatus allow us to find the assumed thickness of the depleted region.

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