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An Extended Hydrophobic Surface Submerged in Water: The Formation of a Depletion Layer. COREY SHEMELYA, ADELE POYNOR, Allegheny College Physics Department — Hydrophobic literally means water hating. When small amounts of water come in contact with a hydrophobic surface, the water will minimize its contact area by forming a drop. What will happen when bulk water comes in contact with an extended hydrophobic surface? We have employed the surface sensitive technique of surface plasmon resonance to probe for the existence of a depletion region (an ultra-thin low-density region) at this boundary. We also explore the interaction of water and a mixed hydrophobic and hydrophilic surface and its effect on the formation of a depletion layer.

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