

Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

The Depletion Layer: A mystery of Science SATOKO ASAHI, SIMON KOHNSTAMM, ADELE POYNOR, Allegheny College Physics Department — Hydrophobic surfaces are those that resist contact with water. When water and a hydrophobic surface are forced into contact with each other complicated interactions ensue. Previous research predicts a layer of low density water exists at the interface between the water and hydrophobic surface which is known as depletion layer. We investigated the interaction between bulk water and a hydrophobic surface using Surface Plasmon Resonance (SPR). Using Self Assembling Monolayers (SAM) on gold foil, we created hydrophobic and hydrophilic surfaces and tested them in order to observe the effect on the depletion layer.

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Date submitted: 30 Nov 2008

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