

Surfaces, double layers, and adsorption V: A compact layer in the Stern model

In contrast to the Gouy-Chapman model of a diffuse double layer shown in Panel 6, the model of Otto Stern (1924) assumed a more firmly bound layer of ions on the mineral surface. Panel 7 presents that concept as applied to the general model of an oxide mineral surface developed by Schindler and Stumm (1987). In this model, the dense layer of cations creates a secondary surface of positive

charge to which anions are attracted.

In both Panels 6 and 7, cations are represented with a variety of colors to suggest that any cation in solution might be present in the adsorbed layer. This is thus non-specific adsorption, or "Type 1" adsorption in conventional usage. In contrast, Panels 8 and 9 will present possible models for specific or "Type 2" adsorption.

A Stern-like model of adsorption

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