

Surface complexation modeling of fluoride adsorption onto kaolinite

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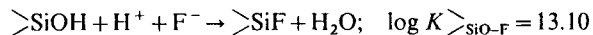
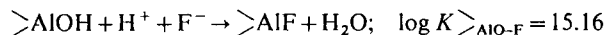
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Abstract

The aim of this research was to provide a mechanistic interpretation for fluoride adsorption onto kaolinite over a range of experimental conditions that are important environmentally. Proton titration data of kaolinite showed that the $\text{pH}_{\text{zpc}} = 8.9$, and the intrinsic acidity constants (of dominant >AlOH) sites were $\text{p}K_{\text{a1}} = -9.23$, and $\text{p}K_{\text{a2}} = 7.57$. The mineral surface exhibited some site heterogeneity. The diffused layer model using the following reaction stoichiometries was employed to quantify anion adsorption data:



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