

Real-time molecular scale redox kinetics at the mineral/water interface

GEOC 24

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The kinetics of redox processes in natural systems are often characterized by a rapid initial reaction, on time scales of seconds to minutes, followed by a slower reaction. The rapid reaction may comprise a significant portion of the entire reaction. In many cases much of the initial reaction is completed before the first measurement can be made using traditional batch and flow techniques. It is important to measure initial reaction rates so that chemical kinetics rate parameters can be determined and reaction mechanisms can be elucidated. The use of real-time in-situ molecular scale techniques can be employed to measure rapid reaction processes. In this presentation, the use of rapid-scan attenuated total reflectance (ATR) Fourier transform infrared (FTIR) and quick x-ray absorption fine structure (QXAFS) spectroscopy will be employed to measure the redox kinetics of oxyanions at the mineral/water interface.

[Biogeochemical Redox Processes in Soils and Sediments](#)

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