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Isotopic transport variation as a function of environmental conditions

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As gaseous and particulate signatures are produced during an underground nuclear explosion, it is important to understand their transport to the surface for subsequent atmospheric transport and detection. By understanding the transport throughout the subsurface, the atmospheric measurements have the potential to allow for a better understanding of the fractionation and total release fraction of radionuclides from a nuclear explosion. We have performed microscale studies of formation of particulate and transport of gaseous species within a variety of geologic media. In this presentation, we discuss the use of exploding wires to simulate the formulation of particulate and the use of inverse gas chromatography to characterize gas transport parameters for a variety of geologic media.

Promotional text

Understanding material transport in the subsurface through microscale laboratory experiments allows for a better understanding of the signals available for detection within the IMS

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