# Solute Leaching in Space and Time: a Comparison of Observed and Modeled Leaching Surfaces for a Soil with Fingered Flow. (S01-derooij084729-Poster)

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## Abstract:

Tortuous flow paths and variation of solute travel times in natural soils cause spreading in space and time of solutes that are uniformly applied to the soil surface. Recently, we developed the concept of the solute leaching surface to efficiently describe the distribution of solutes in space and time at a given depth. In this contribution we compute the leaching plane produced by a chloride leaching experiment performed on a large multicompartment lysimeter containing an undisturbed monolith of a water-repellent soil. We predict solute leaching from the same soil using a theoretical fingered-flow model, and calculate the leaching surface for the model prediction. A comparison of the observed and modeled leaching surfaces then demonstrates the strong and weak points of the model. This illustrates the potential of the leaching surface as a tool to analyze complex leaching patterns and to evaluate model performance.

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