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How does electrical field affects and enhances contaminant migration in porous media ?

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In this work, we discuss the effects of the electrical field on the mobilization and the transportation of contaminants through porous media. In this type of process, various interactive electro-physico-chemical phenomena can occur, which makes it difficult to capture all of the process contribution (complexity) in a model. Therefore, the already existing models do not attempt to simulate the behavior of the entire system. The present work can be considered as a preliminary study toward the integration of new complexities and proposes a conceptual and numerical model simulating contaminant migration coupled to the electrical properties of the porous medium (including the electrical double layer and the displacement of charges). Issues such as the control of contaminant mobility, the ability to achieve remediation (cleanup) objectives, and the estimation of treatment efficiency criteria, will be discussed as well.

Participation

In-Person

References

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Primary authors: EDDAOUI, Noura (Earth Sciences Institute of Orleans (ISTO), CNRS, Université d'Orléans, Orléans, France); SOULAINE, Cyprien (Earth Sciences Institute of Orléans (ISTO), CNRS, Université d'Orléans, Orléans, France)

Presenter: EDDAOUI, Noura (Earth Sciences Institute of Orleans (ISTO), CNRS, Université d'Orléans, Orléans, France)

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