

MODELING DENSITY DRIVEN FLOW IN UNCONFINED CONDITIONS AND TRANSPORT IN DUAL-POROSITY MEDIA

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The mathematical model of flow of variable density solutes in unconfined conditions and transport in dual-porosity media is discussed. While a real-life model of this type suffers from lack of media parameters and complexity it can be sufficiently simplified taking into account the location of unsaturated zones and pollution sources. The discretization is performed using finite volume methods on unstructured 3D polyhedral grids. The model is used to assess the role of density changes on the contaminant propagation in geological media dynamics on the polygon of liquid radioactive waste deep injection.