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Large-scale model of flow in heterogeneous and hierarchical porous media

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1 Highlights

- 2 • An effective-medium model for flow in a porous-porous-solid structure is derived.
- 3 • A Darcy-Brinkman type model is obtained at local mechanical equilibrium.
- 4 • The effective permeability is sensitive to the micro and macro-scale structures.
- 5 • The model is applied to flows in heterogeneous soils and bioremediation sites.
- 6 • Results show the influence of biofilm development on soil transport properties.

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