

Porous media flow with Preisach hysteresis

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The relationship between the pressure and volumetric water content in porous media is known to exhibit hysteresis during the wetting-drying process. Flow in porous media is described by a class of PDEs whose model equation is represented by the Richards equation that was deduced by combining generalised Darcy's law for the flow with equation of continuity. This equation is coupled with initial data and boundary conditions. Under suitable assumptions on the Preisach hysteresis operator the existence result of our problem is proved.

References

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