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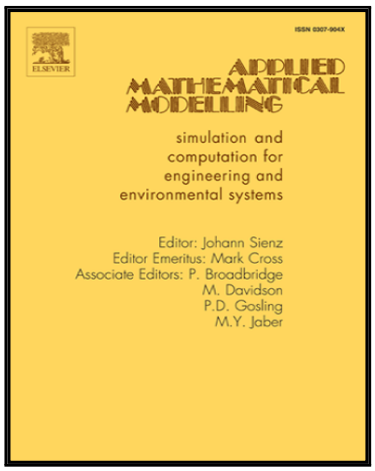

Hydraulic hysteresis effects on the coupled flow-deformation processes in unsaturated soils: Numerical formulation and slope stability analysis

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Highlights

- A coupled flow-deformation numerical method with hydraulic hysteresis is proposed.
- A return mapping algorithm is developed to implement the hydraulic hysteresis.
- The performance and convergence of the numerical formulation is improved.
- The significant effects of hydraulic hysteresis on slope stability is demonstrated.

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