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## A DYNAMIC SOIL WATER MODEL FOR ENVIRONMENTAL SIMULATION PROBLEMS

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### ABSTRACT

*A soil water model of one dimensional flow, using the Runge-Kutta Gill algorithm, is described with the aim of forming a flexible general purpose simulation tool. The problem of stiffness appearing in the traditional finite difference methods approach is discussed, and a numerical algorithm able to overcome it is adopted. The model, based on a flexible numerical approach, is tested with published data. The tests show the model performance to be satisfactory in soil water simulations. The performance of the numerical algorithm is compared with that of a number of alternative numerical methods. The comparison supports the original choice of the algorithm.*

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*Reference: Manioladis, O.G.; A Dynamic Soil Water Model for Environmental Simulation Problems, Journal of Environmental Hydrology, Vol. 8, Paper 11, July 2000.*

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