

An adjoint approach to parameter recovery in a quasilinear parabolic PDE

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We consider the recovery of the unknown functional $D(u(x,t))$ in the PDE given by $u_t - (D(u)u_x)_x = 0$. Adjoint methods appear to allow the effective recovery of coefficient information from a simple physical experiment, while providing direct information about the inversion map. The method will be discussed in theory and numerical results presented.