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Roger Thelwell* (thelwell@amath.washington.edu), University of Washington, Applied Math, Box 352420, Seattle, WA 98195. *An adjoint approach to parameter recovery in a quasilinear parabolic PDE.*

The inverse problem for the unknown coefficient ingredient of a class of quasilinear parabolic PDEs is considered. Adjoint versions of the direct problem are used to derive integral expressions explicitly relating changes in inputs (coefficients) to changes in outputs (observations). The integral expressions provide direct information about the inversion map, and are used to construct an approximate solution to the inverse problem. The approach will be discussed in theory and numerical results presented. (Received September 14, 2005)