

**Gimse, Tore; Risebro, Nils Henrik****Solution of the Cauchy problem for a conservation law with a discontinuous flux function.**(English) [Zbl 0776.35034](#)

SIAM J. Math. Anal. 23, No. 3, 635-648 (1992).

Summary: The Cauchy problem is solved for a conservation law arising in oil reservoir simulation where the flux function may depend discontinuously on the space variable. To do this front tracking is used as a method of analysis.

**MSC:**

- [35L65](#) Hyperbolic conservation laws
- [35R05](#) PDEs with low regular coefficients and/or low regular data
- [76T99](#) Multiphase and multicomponent flows
- [35A05](#) General existence and uniqueness theorems (PDE) (MSC2000)

Cited in **77** Documents**Keywords:**

one-dimensional porous medium; conservation laws; discontinuous coefficients; two-phase flow; Cauchy problem

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