

Beals, Michael

Propagation of smoothness for nonlinear second-order strictly hyperbolic differential equations. (English) [Zbl 0575.35062](#)

Pseudodifferential operators and applications, Proc. Symp., Notre Dame/Indiana 1984, Proc. Symp. Pure Math. 43, 21-44 (1985).

[For the entire collection see [Zbl 0562.00004](#).]

The author analyses the order of the anomalous singularities occurring in solutions of nonlinear second-order, strictly hyperbolic equations, and provides complete proofs for the general semilinear equations $p_2(x, D)u = f(x, u)$ and $p_2(x, D)u = f(x, u, Du)$, with f smooth, as well as an outline of the proof in the quasilinear case.

Reviewer: A.D.Osborne

MSC:

[35L70](#) Second-order nonlinear hyperbolic equations
[35L67](#) Shocks and singularities for hyperbolic equations

Cited in **2** Reviews
Cited in **8** Documents

Keywords:

[anomalous singularities](#); [strictly hyperbolic equations](#); [semilinear equations](#)