

Smith, Hart F.

An elementary proof of local solvability in two dimensions under condition (Ψ) . (English)

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Ann. Math. (2) 136, No. 2, 335-337 (1992).

The author presents a very nice proof of an energy estimate that implies local solvability of a certain pseudo-differential equation.

Specifically, the equation to be considered is $Pu = f$, where P is a classical pseudo-differential operator in two dimensions, which is of principal type and satisfies condition (Ψ) of Nirenberg and Treves. The proof is based on the observation that, in two dimensions, the canonical form for P coincides with the Calderon boundary operator for a boundary-value problem that can be inverted by integration.

Reviewer: J.Alvarez (Las Cruces)

MSC:

35S05 Pseudodifferential operators as generalizations of partial differential operators

Cited in 4 Documents

Keywords:

Nirenberg/Treves condition; energy estimate; local solvability; Calderon boundary operator; boundary-value problem

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