On a semilinear degenerate elliptic boundary value problem for pseudodifferential equations

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Abstract: A semilinear boundary value problem for a degenerate elliptic pseudodifferential equation in the Sobolev type spaces has been reported. The fundamental solution of the operator P(D) can be represented in the form of any closed curve in the upper (lower) complex half-plane, containing inside all the roots. The Borsuk theorem has been used to state that the degree deg is odd. various equations are given in support of the experiment.

Index Keywords: Closed curve; Elliptic boundary value problem; Fundamental solutions; Half-planes; Pseudodifferential equations; Semilinear; Sobolev; Differential equations; Mathematical operators

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