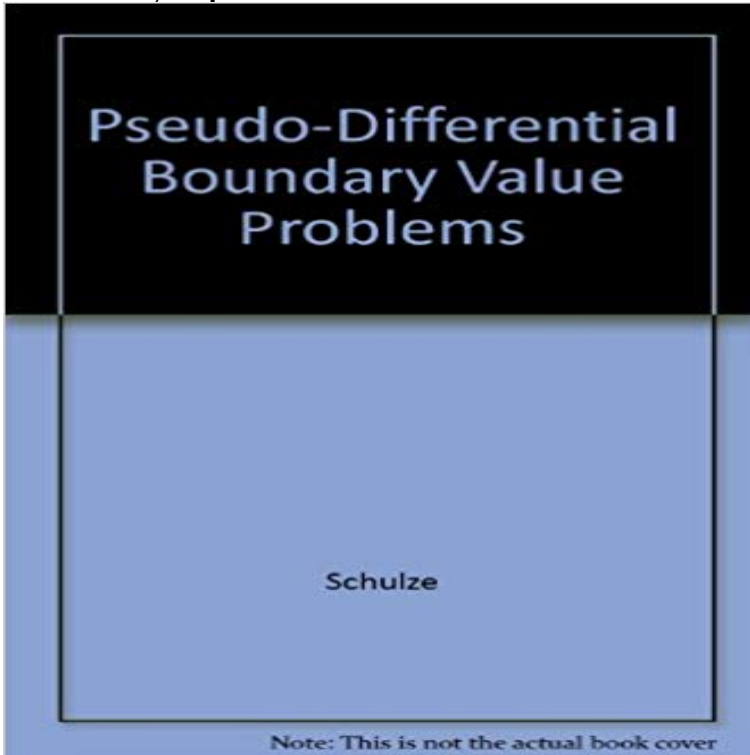


Pseudo-Differential Boundary Value Problems, Conical Singularities, and Asymptotics



In the monograph, the theory of pseudo-differential boundary value problems under the aspect of a calculus for conical singularities is studied. Here the inner normal to the boundary is regarded as the model cone of a wedge with the boundary as edge. The transmission property in Boutet de Monvels sense as well as the theory of Visik and Eskin are particular cases. The results of Visik and Eskin are considerably extended. The operators belong to an algebra that contains the parametrices of the elliptic elements. The ellipticity refers to the interior and the boundary symbols of highest orders. Boundary value problems are treated as particular edge problems in terms of a calculus of pseudodifferential operators with operator-valued symbols acting in the edge Sobolev spaces of the author. The theory contains the essential ideas for treating the more general case of pseudo-differential operators on manifolds with edges. This also belongs to the motivations of the approach. Similarly to Boutet de Monvels theory, the corresponding algebra consists of matrices with the additional trace and potential operators. The concrete operator-valued symbols are presented both with discrete and continuous asymptotics. This corresponds to the nature of the elliptic regularity that is also proved for both variants of asymptotics. Essential ingredients are Mellin operator conventions and weighted Sobolev spaces with asymptotics. The theory applies to a wide range of classical transmission and mixed problems and gives a description of parametrices on a complete symbolic level.

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Schulze, **Geometric Aspects of Partial Differential Equations: Proceedings - Google Books Result** Parametrics of elliptic boundary value problems for differential Pseudodifferential operators on manifolds with boundary Boundary Value Problems, Conical Singularities, and Asymptotics, Akademie-Verlag, Berlin (1994). **Proceedings of the St. Petersburg Mathematical Society, Volume VIII - Google Books Result** 1998 J. Gil: Heat Trace Asymptotics for Cone Differential Operators. Pseudo-Differential Boundary Value Problems, Conical Singularities, and Asymptotics. **Traces on the cone algebra with asymptotics - Numdam** Key words. boundary value problems manifolds with conical singularities pseudodifferential analysis. Mathematics Subject Classifications (2000): Primary 58J32 **Pseudo-Differential Boundary Value Problems, Conical Singularities** Bert W Schulze - Pseudo-Differential Boundary Value Problems, Conical Singularities, and Asymptotics jetzt kaufen. 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