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	Sommario/riassunto	Mixed, transmission, or crack problems belong to the analysis of boundary value problems on manifolds with singularities. The Zaremba problem with a jump between Dirichlet and Neumann conditions along an interface on the boundary is a classical example. The central theme of this book is to study mixed problems in standard Sobolev spaces as well as in weighted edge spaces where the interfaces are interpreted as edges. Parametrices and regularity of solutions are obtained within a systematic calculus of boundary value problems on manifolds with conical or edge singularities. This calculus allows singularities on the interface, and homotopies between mixed and crack problems. Additional edge conditions are computed in terms of relative index results. In a detailed final chapter, the intuitive ideas of the approach are illustrated, and there is a discussion of future challenges. A special feature of the text is the inclusion of many worked out examples which help the reader to appreciate the scope of the theory and to treat new cases of practical interest. This book is addressed to mathematicians and physicists interested in models with singularities, associated boundary value problems, and their solvability strategies based on pseudo-differential operators. The material is also useful for students in higher semesters and young researchers, as well as for experienced specialists working in analysis

on manifolds with geometric singularities, the applications of index theory and spectral theory, operator algebras with symbolic structures, quantisation, and asymptotic analysis.