

**PARAMETRIC PSEUDODIFFERENTIAL OPERATORS WITH
POINT-SINGULARITY IN THE COVARIABLE**

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Abstract: Starting out from a new description of a class of parameter-dependent pseudodifferential operators with finite regularity number due to G. Grubb, we introduce a calculus of parameter-dependent, poly-homogeneous symbols whose homogeneous components have a particular type of point-singularity in the covariable-parameter space. Such symbols admit intrinsically a second kind of expansion which is closely related to the expansion in the Grubb-Seeley calculus and permits to recover the resolvent-trace expansion for elliptic pseudodifferential operators originally proved by Grubb-Seeley. Another application is the invertibility of parameter-dependent operators of Toeplitz type, i.e., operators acting in subspaces determined by zero-order pseudodifferential idempotents.