



**Ernst ALBRECHT** (ernstalb@math.uni-sb.de),  
FR 6.1 Mathematik, University of Saarlandes, Postfach  
15 11 50, 66041 Saarbrücken, Germany, *Local Spectral Properties for Systems of Linear Differential Operators on  $L^p$ -Spaces.*

ABSTRACT. On  $L^2(\mathbb{R}^N)$  every constant coefficient linear partial differential operator  $P(D)$  is normal and hence has a spectral measure and a rich functional calculus. For  $p \neq 2$ , there exists a spectral measure for  $P(D)$  if and only if  $P(D)$  is of order 0. In many cases (for example for elliptic operators) the operator  $P(D)$  is still decomposable and has some sufficiently rich functional calculus. In this lecture, we consider perturba-

tions of systems of ordinary linear differential operators by lower order differential operators with variable coefficients. Assuming a certain decay of these coefficients we still obtain at least locally (with more restrictive conditions even globally) spectral decomposition properties for the perturbed operator and locally a functional calculus. The results have been obtained in joined work with Werner Ricker (Katholische Universität Eichstätt).