



Ian DOUST (i.doust@unsw.edu.au), School of Mathematics, University of New South Wales, Sydney 2052, Australia, *Conditional and unconditional decompositions of noncommutative L^p spaces.*

ABSTRACT. The concept of ‘ R boundedness’ has appeared in a number of papers over the past few years and appears to be a concept of growing importance. It has been used, for example, in recent important work of Kalton and Weis and of Le Merdy, concerning H^∞ functional calculus and maximal regularity, and of Celèment, de Pagter, Sukochev and Witvliet on decompositions of Banach spaces. This concept seems to have been distilled by Berkson and Gillespie in their 1994 paper from some earlier ideas of Bourgain. In this talk I will show how this concept is used in to proving some theorems that can be thought of, either as concerning particular types of decomposition of Banach spaces, or else concerning particular types of functional calculus. As particular applications of these theorems we get analogues of classical theorems of harmonic analysis, but now acting on the von Neumann-Schatten spaces C_p rather than on the Lebesgue spaces L^p . This is joint work with T.A. Gillespie.