

Decomposable Schur multipliers and non-commutative Fourier multipliers

Tuesday October 20 – 15h00-15h45

C. Kriegler

A linear operator $T : L^p(\Omega) \rightarrow L^p(\Omega)$ is called decomposable if it is a linear combination of positive operators T_k , i.e. $T_k f \geq 0$ for any $f \geq 0$. Decomposable operators allow tensor extensions $T \otimes S$ on $L^p(\Omega; X)$ for any bounded $S : X \rightarrow X$. In this talk, we extend this notion to operators acting on non-commutative L^p spaces and show some properties of decomposable Schur multipliers $S^p \rightarrow S^p$, $[x_{ij}] \mapsto [\phi_{ij} x_{ij}]$ and decomposable non-commutative Fourier multipliers acting on group von Neumann algebras. This generalises work of W. Arendt and J. Voigt from 1991. The talk is based on joint work with Cédric Arhancet (Université de Franche-Comté).