IST AUSTRIA
Institute of Science and Technology

Mathematics and CS Seminar

Weyl calculus with respect to the Gaussian measure and Lp-Lq boundedness of the Ornstein-Uhlenbeck semigroup in complex time

Jan van Neerven (TU Delft)

Host: Jan Maas

We introduce a Weyl functional calculus for the Ornstein-Uhlenbeck operator $L=-\Delta+x\cdot\nabla$, and give a simple criterion for L^p-L^q boundedness of operators in this functional calculus. It allows us to recover, unify, and extend, old and new results concerning the boundedness of $\exp(-zL)$as an operator from $L^p(\mathbb{R}^d,\gamma_\alpha)$ to $L^q(\mathbb{R}^d,\gamma_\beta)$ for suitable values of $z\in\mathbb{C}$ with $\Re z>0$ and $\alpha,\beta>0$. Here, γ_τ denotes the centred Gaussian measure on $\mathbb{R}^d$ with density $(2\pi\tau)^{-d/2}\exp(-|x|^2/2\tau)$.

Thursday, June 1, 2017 04:00pm - 06:00pm

IST Austria Campus Seminar room Big Ground floor / Office Bldg West (I21.EG.101)

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