

Differentiable L^1 -functional calculus for self-adjoint operators

Let T be a self-adjoint operator on the square-integrable functions on some measure space X . According to the spectral theorem, a bounded Borel function f induces a bounded operator $f(T)$ on $L^2(X)$.

An interesting question is now, under which additional assumptions on f the operator $f(T)$ extends to a bounded operator on $L^1(X)$.

The talk will treat some special situations, which are related to sub-laplacians on Lie groups with exponential volume growths.

(To follow the talk, deeper knowledge about Lie groups is not required.)