E. G. F. Thomas
Mathematisch Instituut, Universiteit Groningen, Postbus 800, 9700 AV Groningen, The Netherlands

An Invariant Symmetric Non-Selfadjoint Differential Operator

Let D be a symmetric left invariant differential operator on a unimodular Lie group G of type I. Then we show that D is essentially self-adjoint if and only if for almost all $\pi \in \widehat{G}$, with respect to the Plancherel measure, the operator $\pi(D)$ is essentially self-adjoint. This, in particular, allows one to exhibit a left invariant symmetric differential operator on the Heisenberg group, which is not essentially self-adjoint.