1016-32-201   **Bruce K Driver*** (`driver@math.ucsd.edu`), University of CA, San Diego, Department of Mathematics, 9500 Gilman Drive, Dept. 0112, La Jolla, CA 92093-0112, and **Laurent Saloff-Coste** and **Leonard Gross**. *Holomorphic Functions and Subelliptic Heat Kernels over Lie groups.*

A Hermitian form q on the dual space, $\mathfrak{g}^*$, of the Lie algebra, $\mathfrak{g}$, of a Lie group, G, determines a Laplacian, Δ, on G. It will be shown that Hörmander's condition for hypoellipticity of the Laplacian holds if and only if the associated Hermitian form, induced by q on the dual of the universal enveloping algebra, is nondegenerate. The subelliptic heat semigroup, $e^{t\Delta/4}$, is given by convolution by a C^∞ probability density ρ_t. Analogous to earlier work in the strongly elliptic case, we are able to show that if G is complex, connected, and simply connected then the Taylor expansion defines a unitary map from the space of holomorphic functions in $L^2(G, \rho_t)$ onto (a subspace of) the dual of the universal enveloping algebra in the norm induced by q. (Received February 13, 2006)