1016-60-222 **Matthew S. Cecil*** (mcecil@math.ucsd.edu), Department of Mathematics, 0112, University of California, San Diego, 9500 Gilman Drive, La Jolla, CA 92093. *The Taylor Map for Complex Path Groups.*

The heat kernel measure ν_t is constructed on $\mathcal{W}(G)$, the group of paths based at the identity on a simply connected complex Lie group G. An isometric map, T, is established from the space of $L^2(\nu_t)-$holomorphic functions on $\mathcal{W}(G)$ to a subspace of the dual of the universal enveloping algebra of Lie$(H(G))$, where $H(G)$ is the Lie subgroup of finite energy paths. Surjectivity of T can be shown in the case where G is stratified nilpotent. The map T is an infinite dimensional analogue of the Taylor map. The work presented is a summary of my doctoral disseration under the guidance of Dr. Bruce Driver. (Received February 13, 2006)