Wiener path integrals and the heat kernel for the Heisenberg Laplacian

Wolfgang Staubach
Department of Mathematics
University of Toronto
Toronto, ON M5S 3G3
Canada

Abstract

We will present and explicit calculation of the heat kernel and the fundamental solution for the Heisenberg Laplacian using Wiener path integrals and their realizations via the Trotter product formula. This also gives another derivation of Mehler's formula.