

Measures on Hilbert Spaces and Applications to Hydrodynamics

John David Kahl

Stamatis Dostoglou, Dissertation Advisor

ABSTRACT

Homogeneous and isotropic statistical solutions of the Navier-Stokes equations are produced. These are shown to be approximated by Galerkin statistical solutions on finite dimensional subspaces. Homogeneous and isotropic measures are approximated in the 2nd Wasserstein metric by measures supported on finite dimensional subspaces. The homogeneous measures are then shown to be a subspace of positive curvature of the 2nd Wasserstein space.