1015-35-48   **Radu Dascaliuc*** (`rdascali@indiana.edu`), Department of Mathematics, Indiana University, Bloomington, IN 47405, **Michael S Jolly**, Department of Mathematics, Indiana University, Bloomington, IN 47405, and **Ciprian Foias**, Department of Mathematics, Texas A&M University, College Station, TX 77843. *Energy-enstrophy relations on the attractor of 2D Navier-Stokes equations.*

We examine how the global attractor of the 2D periodic Navier-Stokes equations projects in the normalized, dimensionless energy-enstrophy plane. Our results imply that the conditions necassary for the direct energy cascade can occur only in a neighborhood of zero of the phase space. We optain additional bounds on the location of attractor near the origin. (Received January 15, 2006)