Title: The Decay of Fourier modes in solutions of the Navier-Stokes System

- Abstract:
  In the case of periodic boundary conditions the Fourier coefficients of solutions decay exponentially. The statement is not valid universally. In particular, in the case of the square there are reasons to believe that these coefficients decay only in a power-like way. The analysis is connected with the Gibbs phenomenon and a new basis in the Hilbert space of square-integrable functions on the square.