

2nd International Conference on

Fluid Dynamics & Aerodynamics

October 19-20, 2017 | Rome, Italy

Finite-time blow-up for the 3-D primitive equations of oceanic and atmospheric dynamics

Lin Zheng and Shu Wang

Beijing University of Technology, China

In this paper, we prove that for certain class of initial data, the corresponding solutions of the 3-D primitive equations of oceanic and atmospheric without viscosity and with periodic boundary conditions blow up in finite time. We reduce the unknown function of the three dimensional by constructing special solution and consider the restriction of the evolution of equation on the surface $x=0$, $y=0$. Furthermore, we construct a self-similar solution to solve the blow-up problem.

zhenglin0103@emails.bjut.edu.cn