Abstract Submitted
for the DFD09 Meeting of
The American Physical Society

Laboratory scale simulation of spontaneous vertical convective vortex generation[1] ALBERT SHARIFULIN, Perm State Technical University, ANATOLY POLUDNITSIN, Perm State University — The new mechanism of spontaneous vertical vortex generation in stratified fluid is under consideration. This phenomenon was discovered in the framework of experimental attempt [1] to proof the hypothesis of universal character of bifurcation curve formulated in [2]. The experiment with slow cubic cell inclination from bottom heating position was performed. The theoretically predicted curve form had been proved; but in the transition process from abnormal convection flow to normal one during bifurcation curve crossing the unexpected spontaneous vertical convective vortex motion has been discovered. Possibility of spontaneous vertical convective vortex generation application to atmospheric behavior explanation and to Earth's mantle one is discussed. New nonlocal hurricane generation mechanism and observed oceanic volcano archipelago's form explanation attempt are formulated and speculated. [1] AN Sharifulin, AN Poludnitsin, AS Kravchuk Laboratory Scale Simulation of Nonlocal Generation of a Tropical Cyclone. Journal of Experimental and Theoretical Physics, 2008, V.107, No.6, p.1090. [2] AI Nikitin, AN Sharifulin, Concerning the bifurcations of steady-state thermal convection regimes in a closed cavity due to the Whitney folding-type singularity. Heat Transfer – Soviet Research, v.21, no.2, 1989, p.213.

[1]This work was partially supported by RFBR grant 07-01-96070.

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Date submitted: 05 Aug 2009 Electronic form version 1.4