Abstract Submitted
for the DFD08 Meeting of
The American Physical Society

Stability of steady thermal convection in a tilted rectangular cavity in low-mode approximation[1] ALBERT SHARIFULIN, RAFIL SAGITOV — The model system of ordinary differential equations governing the behavior of a non-uniformly heated fluid in a tilted cavity is used for studying the stability of steady regimes of thermal convection at arbitrary (not small) tilting of the rectangular cavity. The bifurcation curve is constructed, which separates the region of parameters (the Rayleigh number and the cavity tilting angle) into two regions: - the internal and external ones. In the external region, the system has one stable steady solution, and in the internal region, it has three steady solutions. One of them is always unstable in a monotone way, and two other may be both stable and unstable. The neutral curves are constructed, which determine the boundaries of the incipience of the oscillatory and monotone instabilities.

[1]This work was supported by Russian Foundation for Basic Research under grant 07-01-96070

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Date submitted: 04 Aug 2008 Electronic form version 1.4