

## **Study of viscous-convection instabilities of thin laminar accretion flows**

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Disk accretion is a very common phenomenon in the Universe: planets are born in accretion disks near young stars, bright X-ray outbursts of accretion disks occur in close star binary systems, supermassive black holes accrete matter from the surrounding disks. Observation behavior of accretion disks in different sources are described in the terms of standard accretion disk model (Shakura & Sunyaev 1973). The standard model of disk accretion assumes turbulent viscosity, but the nature of the turbulence is still under discussion. This problem doesn't have general solution for all types of accretion disks because pure hydrodynamical Keplerian flow is stable due classical Rayleigh criterion. The report describes recent results on search of small perturbations in thin laminar Keplerian accretion flows. New type of instabilities – viscous-convective instabilities – was found in laminar accretion flows taking into account the dependence macroscopic coefficients of viscosity and thermal conductivity on the temperature.

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