Bifurcations in convection of incompressible fluid in a rotated square cylinder ALBERT SHARIFULIN, Department of Applied Physics, Perm State Technical University, Perm, Russia, 614000, SERGEY SUSLOV[1], Department of Mathematics and Computing, University of Southern Queensland — The 2D convection of air in a long horizontal square cylinder two opposite side walls of which are thermally insulated and the other two are maintained at constant but different temperatures has been considered. The cavity is gradually rotated about its horizontal axis. It is found that a multitude of stationary bifurcating solution exist depending on the inclination angle and the Rayleigh number. Normally and abnormally rotating solutions are defined and distinguished and the bifurcation curve is computed.

[1]Toowoomba, Queensland 4350, Australia

Albert Sharifulin
Department of Applied Physics, Perm State Technical University, Perm, Russia, 614000