



ABSTRACT 14: LABORATORY STUDY OF A STEADY-STATE CONVECTIVE CYCLONIC VORTEX

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Experimental study of the steady-state cyclonic vortex from isolated heat source in a rotating fluid layer is described. The structure of laboratory cyclonic vortex is similar to the typical structure of tropical cyclones from observational data and numerical modelling. Different constraints of the steady-state hurricane-like vortex were studied. The three main dimensional parameters that define the vortex structure-heating flux, rotation rate and viscosity were varied independently. It was shown that viscosity is one of the main parameters that define vortex structure. Increasing of kinematic viscosity value may lead to the total suppression of cyclonic motion.