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The interfacial dynamics between two immiscible rotating fluids HUA-YI (MAGGIE) HSU, Department of Mechanical Engineering, National Taipei University of Technology, NATIONAL SCIENCE COUNCIL, TAIWAN COLLABORATION — We numerically investigated the topological interface change occurring between two rotating, immiscible, stratified fluids. We simulate the two- layer fluid in a cylindrical container which is driven by a disk with a constant angular velocity. The upper fluid is of higher viscosity than the lower one, and the ratio of the radius of cylindrical container and the depth of the upper fluid is set to be one of the parameters. The surface tension between 2 fluids is one of the key control factors which change the topological interface. The interface behaviors were found over a wide range of parameters. The topological interface shape will be found such as: hill, plateau, bell, drop formation, and chaos. We also investigate the size of drop using different parameters.

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