

Abstract Submitted
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Experimental Simulation of Buoyancy-Driven Vortical Flow in Jupiter Great Red Spot HADY MAKHMALBAF¹, PhD candidate/research assistant Dept of Mechanical and Aeronautical Engineering, TIANSHU LIU², Professor Department of Mechanical and Aerospace Engineering, PARVIZ MERATI³, Professor and Chair Department of Mechanical and Aerospace Engineering — This new experimental study on Geophysical Buoyancy-Driven Vortical Flow presents a new approach to model the Great Red Spot (GRS) that explains some feature of this phenomena that other classic approaches such as shallow layer model and deep layer model do not. The low velocity region at the center and the counter rotating system at the core that recently were observed by high resolution image processing methods, have never been justified before. This setup generates flow structures similar to the GRSs in the test zone and compares the results and suggests that a counter rotating flow structure at the lower altitude is the source of the GRS formation.

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