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**Experiments with a New, Unique Large-Scale Rig Investigating the Effects of Background System Rotation on Vortex Rings in Water**<sup>1</sup> MARK A. BREND, PETER J. THOMAS, ZHYING XIAO, PETER W. CARPENTER, Univ. of Warwick, School of Engineering, ROBERTO VERZICCO, Politecnico di Bari, UNIV. OF WARWICK TEAM, POLITEC. DI BARI COLLABORATION — We introduce our unique, new large-scale experimental facility [1] designed for our long-term research program investigating the effects of background system rotation on the stability and the dynamics of vortex rings. The new rig constitutes a large water-filled tank positioned on a rotating turntable and its overall height and diameter are 5.7m and 1.4 m, respectively. First experimental and computational results of our program are summarized. We will show various videos of flow visualizations that illustrate some major, qualitative differences between rings propagating in rotating and non-rotating flows. Some of the investigated characteristics of the vortex rings include their translation velocity, the velocity field inside and surrounding the rings, and, in particular, their stability. We will briefly outline experiments employing the relatively new Ultrasonic-Velocity-Profilometer technique (UVP). This technique appears to be particularly suited for some of our measurements and it was, as far as we are aware, not previously used in the context of vortex-ring studies. [1] <http://www.eng.warwick.ac.uk/staff/pjt/turntabpics/voriskt.html>

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Prefer Oral Session  
 Prefer Poster Session

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