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Dynamics of collision of a vortex ring and a planar surface[1] MICHAEL MCERLEAN, MICHAEL KRANE, ARNOLD FONTAINE, Penn State University — The dynamics of the impact between a vortex ring and a planar surface is presented. The vortex rings, generated by piston injection of a slug of water into a quiescent water tank, collide with a surface oriented normally to the ring's direction of travel. The time evolution of both the force imparted to a planar surface and the wall pressure are presented. These are supplemented by DPIV measurements of the evolution of ring strength and structure, before and during impact. The relation between changes in ring structure during collision and the waveforms of impact force and wall pressure will be discussed.

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[X] Prefer Oral Session
[ ] Prefer Poster Session

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