

Abstract Submitted
for the DFD07 Meeting of
The American Physical Society

Investigation of the behavior of a ventilated supercavity¹ XU SHENG, ELLISON KAWAKAMI, WILLIAM HAMBLETON, ROGER ARNDT, University of Minnesota — The topic of supercavitation is of considerable interest to drag reduction and/or speed augmentation in marine vehicles. During the present experimental work, the ventilated supercavity formed behind a sharp-edged disk is investigated. Results regarding cavity shape, cavity closure and ventilation requirements versus cavitation number and Froude number will be presented. Additionally, effects related to flow choking in a water tunnel test section are discussed. Results obtained are similar in character to previously reported results, but differ significantly in measured values. Cavity shape, particularly aft of the maximum cavity diameter, is found to be a strong function of the model support scheme chosen, and results are presented from several configurations.

¹Sponsored by ONR

Roger Arndt
University of Minnesota

Date submitted: 25 Jul 2007

Electronic form version 1.4