

Abstract Submitted  
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**Measurements on a cavitating wedge** HARISH GANESH, SIMO MAKIHARJU, STEVEN CECCIO, University of Michigan, Ann Arbor — Three types of cavitation on a wedge; incipient, transient, and periodic shedding, were chosen to perform extensive flow measurements to establish a reliable experimental dataset for CFD validation. Two time-synchronized high-speed video cameras were used to film the cavitation events from the top and side. A common time base was used to synchronize the cameras with unsteady pressure pulse signature during the cavitation cloud collapse, surface impedance probes implanted on the wedge surface, and flow properties measurement devices. This enabled the possibility to correlate the processes observed in the video to measured flow properties. The whole process was repeated by replacing the high speed video cameras with a time resolved X-ray densitometry system to measure the void fraction distribution synchronously with other flow measurements. Based on all the measurement data, significant physical processes that dominate the cavitation dynamics were identified.

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