

Abstract Submitted
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Cavitation Dynamics on a Backward Facing Wedge With Streamwise Grooves¹ JULIANA WU, HARISH GANESH, STEVEN CECCIO, University of Michigan — Cavitation dynamics in the separated region of backward facing wedges has been studied extensively in the past. From the previous studies it has been found that cavity shedding mechanisms could be due to the presence of a re-entrant liquid flow and/or a propagation bubbly shock wave. Recently, the effect of streamwise grooves on the aft portion of the wedge on the cavity shedding dynamics was explored. In the present study, X-ray densitometry is used to study the effect of streamwise grooves of different sizes and starting locations on the cavitation behavior on the wedge. Using time resolved void fraction flow fields from X-ray densitometry, the effect of the grooves in altering the flow structures and cavity shedding mechanisms are characterized.

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