

# Simulation of Cavitating Flow around a 2-D Hydrofoil (PDF)

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Title: Simulation of Cavitating Flow around a 2-D Hydrofoil

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关键词: 2-D hydrofoil; cavitation model; cavitation flow

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摘要: In order to predict the effects of cavitation on a hydrofoil, the state equations of the cavitation model were combined with a linear viscous turbulent method for mixed fluids in the computational fluid dynamics (CFD) software FLUENT to simulate steady cavitating flow. At a fixed attack angle, pressure distributions and volume fractions of vapor at different cavitation numbers were simulated, and the results on foil sections agreed well with experimental data. In addition, at the various cavitation numbers, the vapor fractions at different attack angles were also predicted. The vapor region moved towards the front of the airfoil and the length of the cavity grew with increased attack angle. The results show that this method of applying FLUENT to simulate cavitation is reliable.

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备注/Memo: -

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