

## عنوان مقاله:

Experimental investigation and numerical simulation of cavitating flow around axisymmetric bodies

## محل انتشار:

سومین همایش ملی هیدرودینامیک کاربردی ایران (سال: 1394)

تعداد صفحات اصل مقاله: 16

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## خلاصه مقاله:

Cavitating vehicles must be supplied with artificial cavity through ventilation in order to provide control and maneuvering conditions. Present studies carried out in the IUST applied hydrodynamics laboratory investigated some aspects of ventilated cavitating flow physics. Images were taken to qualitatively describe the maximum cavity length and width at different cavitation numbers. Moreover, the amount of ventilation gas required to sustain a ventilated cavity was evaluated. In this paper, according to the experimental observations, a cavitation modeling is proposed to simulate cavitating flow over a cone with a 45-degree vertex angle. The turbulence model consists of large eddy simulation with an artificial viscosity to accelerate the convergence rate. Unsteady incompressible viscous Navier-Stokes equations are combined with a source and a sink of vapor through a dissipation term. Comparison between the numerical results and the experimental data shows that the cavity characteristics are well simulated

## کلمات کلیدی:

ventilated cavity , cavitation modeling, artificial viscosity, two-phase flow

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/596812>

