

Analysis of the cavitation in the orifice using CFD

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Cavitation is a phenomenon that the liquid is vaporized by the static pressure of the liquid is reduced to the saturated vapor pressure at the temperature. Cavitation is mainly generated from the propeller of vessels and submersible pumps etc., In flow measurement devices such as orifice or venturi meters it is not uncommon. Typical characteristics of the cavitation phenomenon is that the high pressure and heat is generated when the bubbles collapse. For this reason, when the cavitation is occurred the surface of the device is corroded and damaged, and noise. But, in recent years water treatment research using cavitation was announced substantial number. Because of the above reasons that determination of the occurrence of cavitation and control is important. Accordingly, in this study we performed CFD(Computational Fluid Dynamics) analysis for the generation and characteristics of the cavitation of the orifice, confirmed correlations between the non-dimensional variables.