

Abstract Submitted
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Effect of the cavity closure condition on the flow of liquid around a supercavitating wedge¹ ANNA ZEMLYANOVA, YURI ANTIPOV, Louisiana State University — The problem for a one non-symmetric supercavitating wedge in a jet is considered. The single- and double-spiral-vortex models proposed by Tulin are used to describe the flow of the liquid at the rear part of the cavity. Both problems are solved in a closed form using the methods of complex analysis. The models are compared with respect to different parameters of the flow. It is obtained that the flow around the wedge, in the front part of the cavity and the lift and drag coefficients are not affected by the choice of the model. On the other hand, the flow at the tail part of the cavity and the length of the cavity depend strongly on the chosen model.

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