

An airfoil with a significant angle of attack is accelerated at various rates from rest in superfluid helium. Starting vortices, shed from the trailing and leading edge of the airfoil, are studied by visualization methods. The vorticity field is approximated by Lagrangian pseudovorticity, which makes it possible to determine the position and relative strength of the vortices in time and compare them with a classical theory. It was found that the trailing edge starting vortex moves considerably faster than predicted by the theory and apart from a possible short initial period does not follow the analytically obtained scaling laws. The leading edge vortex was found to be ill-defined in the present experimental setup, but the results also hint at differences from the theory. The disparity is attributed mostly to viscosity effects. A possible explanation is proposed for the observed phenomena, where the vortex may after a short period escape the airfoil's attached flow and move with an approximately constant velocity. Overall, the study supports the idea of similarity between viscous flows and large scale, mechanically driven flows of He II.