
Calculation of aerodynamic characteristics of air-cushion take-off and landing device with controllable eject fences

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The article shows development and verification of the forces and moments calculation program, which influence on amphibian aircraft from combined take-off and landing device with static air-cushion when it moves near surface. Air-cushion has on its sides flexible fences and eject fences with two transversal pairs of rotary nozzles with variable pass-through area from one receiver in fore-part and after-part. This take-off and landing device allows changing the location of resultant pressure force in air-cushion sections, which could be used both for balancing of aircraft in condition of zero trim angle independently from running over air flow while take-off run, and for acceleration decrease by oscillation control in case of movement near rough water and ground surface. Calculations and experimental researches of the take-off and landing device were carried out for Nizhny Novgorod «Amphicon» ekranoplan SM-30.

Keywords: *pressure distribution, bottom of the nozzle chamber, amphibious aircraft, vibration control, pressure, air flow, air-cushion.*

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