
NUMERICAL MODELING OF AERODYNAMIC WIND TUNNEL EXPERIMENT

M.V. Marashan

maximmarashan@mail.ru

Bauman Moscow State Technical University, Moscow, Russian Federation

Abstract

We developed a model of the wind tunnel test section for aerodynamic numerical simulation experiment in the tunnel T-500, developed in Bauman Moscow State Technical University. We carried out numerical modeling of the experiment according to the example of the profile blasting V simm. — 12 %. We drew the comparison between the results of profile blasting V simm. — 12 % in the wind tunnel T-500 test section and the results of blasting in the tunnel T-102, developed in Central Aerohydrodynamic Institute as a result of numerical simulation. We obtained close agreement of results of numerical modeling and experimental data presented in the works of Central Aerohydrodynamic Institute

Keywords

Aerodynamic experiment, wind tunnel, numerical simulation, Solid Works Flow Simulation

© Bauman Moscow State Technical University, 2016

References

- [1] Golubev A.G., Kalugin V.T., Lutsenko A.Yu., Moskalenko V.O., Stolyarova E.G., Khlupnov A.I., Chernukha P.A. Aerodinamika [Aerodynamics]. Moscow, Bauman MSTU Publ., 2010. 687 p. (in Russ.).
- [2] Marashan M.V. Screen effect: experimental technique developing for aerodynamic characteristics measurement taking into account screen impact. *Molodoy uchenyy*, 2015, no. 24 (104), pp. 157–160 (in Russ.).
- [3] Ushakov B.A., Krasil'shchikov P.P., Volkov A.K., Grzhegorzhevskiy A.N. Atlas aerodinamicheskikh kharakteristik profiley krylyev [Atlas of aerofoil aerodynamic characteristics]. Moscow, "BNT NKEAP pri TsAGI" Publ., 1944. 340 p. (in Russ.).
- [4] SolidWorks flow simulation 2012 tutorial. SolidWorks, 2012. 266 p.

Marashan M.V. — student of Department of Flight Dynamics and Rocket and Spacecraft Movement Control, Bauman Moscow State Technical University, Moscow, Russian Federation.

Scientific advisor — A.G. Golubev, Assist. Professor of Department of Flight Dynamics and Rocket and Spacecraft Movement Control, Bauman Moscow State Technical University, Moscow, Russian Federation.