ON CALCULATIONS OF A MODEL HIGH-SPEED COMBUSTOR

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Abstract: The results of the model calculations of the combustion chamber with a supersonic flow at the inlet using OpenFOAM package are presented. The multicomponent flows are considered for both regimes with and without combustion of hydrocarbon fuel. For the nonreactive flow, the convergence of solution with mesh refinement is studied. Investigations are carried out in the framework of the project of the TsAGI–RAS Computer Modeling Center in order to develop a methodology for simulating the processes taking place in the external flow and inside the engines of a high-speed aircraft.

Keywords: high-speed combustor; multicomponent mixture; hydrocarbon fuel; OpenFoam

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Received December 18, 2015

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