

## **Analysis of the impact of high temperature supersonic jets in low-thrust engines**

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*The paper analyses power, heat and pollution impact of overexpanded jets of simulated low-thrust engines with different correlations of kerosene oil and oxygen expenditure in simulated chamber, flowing out into the atmosphere. The research dedicated to the impact of jets of simulated low-thrust engines was conducted in a testing complex at SSC FSUE Keldysh Research Center. Descriptions of experimental facility, test schedule and methods of measurements were introduced. We received the distribution of pressure and heat flows on the inclined plate, mounted behind the nozzle edge in comparison with the results of similar researches of air jets. Nanostructural observation of soot remains in chamber and on the outer plate in the jet was conducted. The paper observes the abilities of computational simulation of the impact of a real jet on a plate with the help of programme complex SolidWorks Flow Simulation.*

**Keywords:** jet, low-thrust engine, oxygen, kerosene oil, test, pressure, heat exchange, soot, nanostructure, computational simulation

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