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OXYGEN AND METHANE LIQUID PROPELLANT ROCKET ENGINES FOR REUSABLE SPACE TRANSPORT SYSTEM

Abstract

Results of design of oxygen and methanereusable liquid propellant rocket engines (LPRE) with thrust 2000kN and 400kN are presented. There are substantiated using schemes with the gasifiedgas based on many years' experience of NPO Energomash in calculation and design of liquid propellant rocket engines for different kind of space rockets. There are chosen main engine parameters in the context of reusable booster stage of perspective space rocket. Results of calculation and design of main units of engine (pressure in the combustion chamber, temperature at the turbine etc.)for providing necessary reusability LPRE are presented. The concept of reusable oxygen and methane liquid propellant rocket engine are suggested. Keywords: methane, liquid rocket engine, space, rocket, booster stage, reusability.