Increase of intermediate coolant LOX-He engines efficiency of various application

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This paper analyzes further improvement of main liquid-propellant rocket engine configurations which allows to increase significantly the specific pulse, reliability, and effectiveness of launch vehicles. The article presents the results of studies LPRE new configuration for space LOX-He upper stages of DM type through usage of high-pressure helium circulating over closed loop for cooling the combustion chamber.

Keywords: *liquid-propellant rocket engine, LPRE cooling with helium, closed helium loop, recuperative helium-LOX heat exchanger, turbo-compressor of closed helium loop.*

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