

SPACE PROPULSION SYMPOSIUM (C4)  
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Author: Mr. Volodymyr Shulga  
Yuzhnoye State Design Office, Ukraine, shulga1938@mail.ru

Mr. Oleksandr Prokopchuk  
Ukraine, info@dpukrconfiaa.org  
Mr. Alexandr Dibrivny  
Yuzhnoye State Design Office, Ukraine, kukhta\_a@mail.ru

KEY ISSUES OF CREATING A CLOSED CYCLE LRE WITH DEEP THRUST THROTTLING

**Abstract**

Creating liquid rocket engines with deep thrust throttling (to 10Taking into account that the closed cycle turbopump fed LRE design is currently mastered and has reached a high reliability level, allowing to substantially increase the mass-performance characteristics of the system, development of such LREs with deep thrust throttling becomes the pressing tasks. Yuzhnoye SDO specialists have earlier developed a similar RD857 engine with 14 tf thrust for the second stage of intercontinental ballistic missile 8K99. The paper presents main technical solutions, allowing to provide ten times throttling of a closed cycle LRE.