

Entering into Space and New Energy and Propulsion Technology (7)

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## RESEARCH ON THE DEVELOPMENT STATUS AND TECHNICAL REALIZATION OF HIGH SPEED TURBINE ENGINE

### Abstract

High speed turbine engine technology is one of the key technologies of air breathing combined cycle engine. First of all, the development of air breathing combined cycle power technology in the United States, Britain, Japan and other countries are summarized then the key technologies of high speed turbine engine are summarized. and then, taking a small turbojet engine as the research object, this paper calculates the thermodynamic cycle parameters for high speed performance. Lastly, The way to improve the pressure ratio, the temperature of the turbine and the weight loss are pointed out. The results show that the performance of certain turbojet engine can be improved to meet Ma3, which can satisfy the requirements of high speed turbine engine.