

SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Future Space Transportation Systems Technologies (5)

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RECENT STATUS FOR THE JAXA RBCC RESEARCH WORK IN 2009

Abstract

During 2008-2009, JAXA conducts mainly Mach 4 flight condition in the Rocket-based combined cycle engine research work. Based on the numerical and sub-scaled studies, new rocket engines and the combustor sections are introduced. To evaluate the combustion efficiency in the RBCC engine, direct gas-sampling was introduced. In 2009, JAXA will be in new experimental criteria for RBCC study, subsonic flight condition. The air-intake part of the RBCC, ejector, will be tested in the low Mach number with a CAMUI-sounding rocket system. CAMUI has newly designed hybrid rocket engines with LOx and PE. This simple system makes the way to the flight experiment with safe and low cost. This paper summarized all these work done in 2008-2009.