Ⅴ. Application of the Results

Due to the progress of advancement of the measurement system achieved out of this research, it is expected that the problems incurred during the development of the engine can be resolved more easily and thus the more accurate evaluation of engine performance can be enabled by increasing the accuracy and the reliability of the performance evaluation of the altitude test of aero-engines. In addition to that, the overall development cost can be reduced since reduction of the number of initial development test, the test duration and the repeated test due to the establishment of the improved facility control system as well as the active control capacity could lead to the cost of the engine altitude test.

The more accurate performance evaluation is required in engines developed indigenously these days since more advance technologies are getting embedded. The enhanced measurement system and the control system enable such a capability, and which thus can lead to the simultaneous improvement of technologies in the area of design, manufacturing and the test evaluation.

Since it becomes possible to conduct a test and evaluation for the propulsion system domestically in the course of the development of aircraft systems, the dependency on the foreign technology can be reduced and disclosure of the critical technology and information can be prevented. The result of this study will be implemented on the small engine altitude test facility which is under a plan in a near term, and in later it will be utilized in the altitude test of turbo-fan engine, of which the components development has just begun.

Besides, the advanced measurement system and the enhanced control accuracy is expected to be utilized in other areas such as the development of large and big volume valves. The problem experienced by the local industries of valves because of the lack of large volume air supply is expected be diminished significantly, it will be possible to check the effect of temperature on the performance of the valve.