

## **46ESS-35: Fan and Compressor Tests and Test Rigs**

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*Jet-propelled passenger transport aircraft appeared 55 years ago, ushered in an era of unprecedented human mobility. Nowadays, people want aircrafts have better performance and low emission. As a result, lots of test and test rigs are used in these two area. In this thesis, the topic is divided into two categories: 'Fan' and 'compressor'. In practice, the tests and test rigs can not be separated. So, this thesis combine both tests and their corresponding test rigs. Because there are plenty of tests and test rigs, so this thesis focuses on several particular ones for fan and compressor respectively. Including like 'Performance research and optimization on the fan test system based on experiment', 'Application of a Multistage Casing Treatment in a High Speed Axial Compressor Test Rig' and so on. At first, introducing the methodologies using in these tests. And then talking about how to induce these test systems through test rigs, in other words, introducing the test rigs and the analyses for the parameters they obtained. Finally, this thesis conclude all of these examples to get some key points which are the necessary requirement in today's tests.*