

Session Descriptions

1. Testing Strategies, Management and Planning

This session includes papers that address various testing strategies used in the aerospace community. Often test strategies are used to balance test cost and schedules while still maintaining test rigor and proper test sequence. Discussion areas include topics such as test fixtures, facility availability, trade-offs, lower level versus assembly testing and management and planning for the best test program strategy. Optimization of key resources may also be a factor in the planning and execution of a test program. Testing strategies should include past, present and future programs as well as methods used to incorporate lessons learned to mitigate future risk.

2. Innovations in Test Facilities and Equipment

This session will include unique test planning, test performance, and supporting applications for new test facilities and related equipment. Recent innovations and techniques are solicited for issues such as non-recurring versus recurring tests and adaptation of new and old equipment. Topics include sharing experiences for recent concepts, unique breakthroughs and advances in testing methodology, test optimization, test equipment, test control, data acquisition, and data reduction capabilities.

3. Test Perceptiveness & Effectiveness: Recent Lessons Learned

Aerospace testing is under constant pressure to provide the optimum balance between effective testing and reduced cycle time. This session will present failure experience from ground test through on-orbit operation, analysis and lessons learned to increase test perceptiveness and effectiveness. Potential topics include new processes and techniques to produce perceptive and effective test programs, the value of various functional and environmental tests and “test like you fly” strategies. Metrics to monitor and improve test programs; adequacy assessment techniques and comparisons to applicable standards are also included.

4. Modeling, Analysis and Simulation

Inspired in the theme of the conference, this session addresses the contributions of modeling, analysis and simulation relevant to the qualification of aerospace flight systems. Especially encouraged are papers that integrate analysis and testing to validate models, optimize test design and simulate extreme aerospace environments. Other topics of interest include the simulation of novel test methods involving force sensors, conventional and base-driven modal surveys, shaker transient tests and combined environment simulation techniques.

5. Testing Philosophies and Standards

This session will focus on examining different testing philosophies, relevant industry testing standards, and associated risk mitigation for aerospace systems in light of time and budget constraints, system size, maturity, complexity, resource availability and limitations, and customer requirements. Additionally, test philosophy limitations and how test standards can help ensure uniformity and success across the industry will be explored.

6. Instrumentation, Data Acquisition & Evaluation

A wide range of issues dealing with test instrumentation, data acquisition and the evaluation of test data will be discussed. Topic areas will include new methods and techniques of instrumentation, effective use of older instrumentation systems, techniques for identification and control of instrumentation and data acquisition errors, standardization of instrumentation within a large aerospace corporation, and test data transfer and test control via the Internet and non-contact instrumentation sensors.

7. Interactive Technical Interchange

The Interactive Technical Interchange is an open forum that will include the discussion of posters through interactive presentations.