



Aeroelastic studies: Mastering the Art & Science of Dynamic Qualification Tests

The interaction between the aerodynamics and structural dynamics ('aeroelasticity') of aerospace vehicles has to be studied carefully to ensure the success of the mission. CSIR has undertaken the aeroelastic testing of SARAS and Tejas aircrafts and the launch vehicles of India's space programme.



Clockwise: Aeroelastic testing of GSLV, SARAS T-tail and Tejas aircraft

Finite Element Techniques: Studying loads & stresses

The finite element (FE) method has been successfully used for aircraft structural analysis, including stress analysis, dynamics, aeroelasticity, impact and structural stability. FE techniques have also been employed in the analysis of aerostats and radomes.



Full-aircraft finite element model of SARAS

Impact & Crashworthiness Studies

Test Facilities



Low Velocity Impact Test Facility

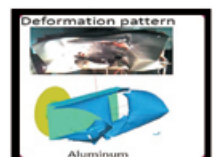
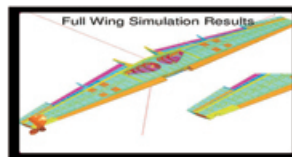


AIRGUN (50 mm Diameter)



AIRGUN (204 mm Diameter)

Simulation Capabilities



Aluminum

