

PD STTD 0901

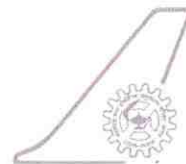
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Ground Resonance Testing of 500 KW Wind Turbine GFRP Blade

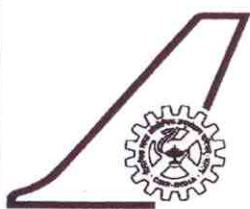
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Project Document STTD 0901
January 2009



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DOCUMENTATION SHEET

	NATIONAL AEROSPACE LABORATORIES	Class : Restricted No. of Copies: 12
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Title: Ground Resonance Testing of 500 KW Wind Turbine GFRP Blade

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Division : Structural Technology

NAL Project No. : S - 0 - 256

Document No. : PD - STTD- 0901

Date of Issue : January 2009

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External Participation : -

Sponsor : -

Approval :  Head, Structural Technologies Division

Remarks : -

Keywords : Wind Turbine, Composite, GFRP Blade, GRT, Frequency, Modal damping, Bending mode, Torsion mode, MAC, Modeshapes, FRF's

Abstract:

Ground Resonance Test is essential to determine the dynamic characteristics, such as Natural Frequencies, Modal Damping, Mode Shapes and MAC Matrix. The 500KW Wind turbine GFRP blade was subjected to GRT in order to find the dynamic characteristics experimentally. The wind turbine GFRP blade was rigidly attached to the static test rig in order to simulate the cantilever boundary condition. SISO test technique was used to conduct the test. Fixed response and roving excitation methodology was employed for making measurement. Input force and responses were measured using SCADAS III hardware and Test.Lab software. The test results were compared with the analytical results. Test configuration, test procedure and results are documented.