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<b>Keywords</b> : Control System, Digital Techniques, Pitch Damping measurements.		
<b>Abstract</b> :  <p>An improved control system for a forced-oscillation rig for measurement of pitch/yaw damping derivatives in the NAL 1.2m trisonic wind tunnel has been designed and developed. The basic principles of the system are similar to those of an existing control system developed for the same forced-oscillation rig. The present system incorporates certain features such as the use of digital techniques for fine tuning and automatic switching of phase tracking control from closed-loop to open-loop mode operation. These features facilitate testing even when the model is subject to relatively large random disturbances due either to large flow unsteadiness and/or separated flow over model occurring at high incidences. Performance of the control system was evaluated initially in bench tests. The system was later successfully employed for pitch-damping measurements at Mach numbers upto 3.0 in the NAL 1.2m trisonic blowdown tunnel.</p>		