

sensor & calibration tips



www.modalshop.com

www.pcb.com

Your one-stop sound & vibration shop

Greetings,

Welcome to issue #28-

Welcome to our third year of information and education for structural vibration and dynamic calibration professionals. Our goal is to provide a few "bite size" pieces of information each month to keep you up on the latest in the industry. Please have a look (like thousands of your industry colleagues do each month!), and share it with a co-worker if you see something from which they could benefit. Follow the archive links below to where you'll find all the back issues with their wealth of information.

[Join Our Mailing List!](#)

Purdue applies Piezoelectric Tools for Composite Damage Detection

Tip of the Month

The use of impulse calibration for shock accelerometers compares output of the sensor under test and the reference at multiple excitation levels from 20g's to full scale, as compared with sinusoidal calibration that is typically capped at 10g's. Impulse calibration also provides linearity over a larger range and detects anomalies like zero shift.

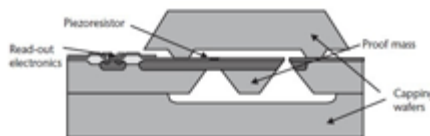
A team of researchers at Purdue University is producing a new generation of tools for inspecting, evaluating, and repairing composite materials in military aircraft, including the CH-53E blades and V-22 fuselage in the Marine Corps. In future aircraft, composites will revolutionize the capabilities of heavy-lift helicopters and other platforms. The CH-53K is a prime example; its design incorporates composites for its exterior, internal airframe and rotors...



[Click to read more about composite damage detection](#)

<https://engineering.purdue.edu/PCSI/assets/files/FINAL%20Spring%202008%20Reduced.pdf>

Detail on Constant Current & Piezo-Resistive Accelerometers



Due to a number of requests for more detail on the new ICPR™ technology previewed last month, we have included a more

detailed description this month. The following paper was presented in late October by PCB Senior Scientist, Robert (Bob) Sill at the SAVIAC symposium in San Diego, California. Bob and the team at the PCB Advance Sensor Design Center in San Clemente, California work on silicon designs for shock and vibration sensors, as well as advances in vibration sensors and signal conditioning for the Aerospace & Defense markets.

[Click to learn more about ICPR technology](#)

http://www.modalshop.com/filelibrary/U-060Sill_DC_Response_from_an_ICPR_60kG_PR_MEMS_Sensor.pdf

Quick Links

[NCSL](#)

[IMEKO](#)

[PTB](#)

[NIST](#)

[ISO TC 108](#) - Mechanical vibration, shock and condition monitoring

[ISO TC 108/SC 3](#) - Use and calibration of vibration and shock measuring instruments

[IMAC - Jacksonville, FL \(February 1-4\)](#)

[SAVIAC](#)

[Vibration Institute](#)

[The Modal Shop website](#)

[PCB Piezotronics website](#)

[IMI website](#)

Newsletter Archive

[sensor & cal tips #25](#) - Is my cal shaker good enough?

[sensor & cal tips #26](#) - high temp vibration and hammer calibration

[sensor & cal tips #27](#) - Shock vibration and calibration for Aerospace and Defense, ICPR

[Table of Contents](#) - all the back issues



The Modal Shop is celebrating its 20th Anniversary in 2010. We hope that you've enjoyed our newsletter again this month, as well as its educational content over the last few years. No where like the sensing calibration fields are certainty and reliability more important. We're here to serve you with all your dynamic sensor and calibration needs.

Sincerely,

A handwritten signature in black ink that reads "Michael J. Lally".

Michael J. Lally
The Modal Shop
A PCB Group Company
mike.lally@modalshop.com



[Forward email](#)