sensor & calibration tips

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Greetings,

Welcome to issue #36-

Welcome to the summertime addition (for those of us in the northern hemisphere)! My summer has turned a little rocky since my youngest son broke his ankle. A quick surgery and two screws later, he's on the path to recovery, but bones take time to heal. In other news (work and technology related), friend our Facebook fan page or find your favorite newsletter articles by clicking on the **Newsletter Articles by Topic** section in the left hand column of this page.

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Tip of the Month

When calibrating accelerometers using an air-bearing shaker, whenever possible, the sensor under test (SUT) should be stud mounted directly to the shaker armature to achieve the best performance. If mounting to the tapped hole in the armature is not practical, a simple mounting adapter can be used. Be sure to apply mounting grease between all mating surfaces.

Quick Links

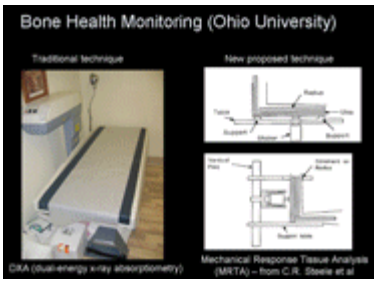
NCSL
IMEKO
PTB
NIST
ISO TC 108 - Mechanical vibration, shock and condition monitoring
ISO TC 108/SC 3 - Use and calibration of vibration and shock measuring instruments

NCSLi - Providence, RI (July 25-29)

SAVIAC
Vibration Institute

Previous Newsletter

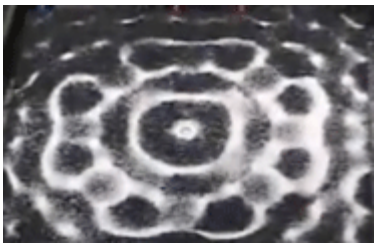
New Techniques for Bone Health Monitoring



Since we're on the topic of bones, here's a quick peek at an application where researchers in collaboration at both Ohio University and Stanford University are using Modal Shop vibration exciters and PCB impedance heads to assess bone structural integrity. View photos of a test set-up of this new technique for bone health monitoring by clicking here. The Modal Shop and PCB actively support universities throughout the world, helping create new vibration laboratories and enhancing existing dynamic measurement set-ups.

Click here to view photos of this new technique
http://www.modalshop.com/filelibrary/Bone_Health_Monitoring.pdf

The Internet's Top 10 Vibration Videos



Salt on table, vibrating at different frequencies produces a visual representation of the harmonic nodes.

Check out this list of Top 10 vibration related videos found on the internet. The original list was compiled by *Chris Mason at ProSig* in their June 16, 2010 newsletter. While on the topic of videos, check back on the TMS website often, each week we are adding new videos on a variety of topics from calibration to non-destructive testing.

Click here for the top 10 vibration videos on the web
http://www.modalshop.com/calibration.asp?ID=337

sensor & cal tips #35 - Accelerometer Technologies; Performance and Accelerometer Calibration

Newsletter Articles by Topic

Function and Structure of Accelerometers

Accelerometer Internal Structure

Similarities Between Charge and ICP Operation

Overview of ISO 16063 Accelerometer Calibration Standards

Selecting Accelerometers for Mechanical Shock

Master List of Topics

PCB Group Companies

The Modal Shop website
PCB Piezotronics website
IMI website
Larson Davis website
PCB Load & Torque website

Blast from the Past

For those who may be new to our newsletter, we wanted to highlight an article from one of the first sensor & calibration tips newsletters - **Transduction Types (Piezoelectric, Piezoresistive and Capacitive)...**

Accelerometers are transducers that generate an electrical signal output as a result of a mechanical acceleration input to the unit. The most common type of accelerometer operates by the piezoelectric effect. **Piezoelectric (PE)** accelerometers are generally classified in two groups - low impedance voltage mode (for example, PCB Piezotronics trademarked ICP®) or charge mode. Other types of accelerometer transduction methods include **piezoresistive (PR)**, based upon strain gage technology and **variable capacitive (VC).**

Click here for more information on transduction types
http://www.modalshop.com/calibration.asp?ID=190

As The Modal Shop celebrates its 20th Anniversary, we invite you to visit our Facebook page and become a fan. We've been adding both our tradeshow schedule and information about recent events around The Modal Shop. Come and see our core value of "Community," both in the office and offsite, at work!

Sincerely,

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Forward email