

Advanced EMF & EMR Measurement Concepts And Application

Mini-conference

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Day 1:

Fundamentals of measurement:

Floating and Referenced measurements.

Using your DMM for more than you purchased, or expected.

Measurements, anywhere of:

1) Resistance;

2) Voltage:

Probes; DMM DC, and AC (peak, and RMS).

3) Current.

Relevance of instrument impedance and input limitations.

Practice session

Realization of Multimeter limitations:

Oscilloscope fundamentals, time,

display values relative to multimeter values.

Realization of Oscilloscope limitations, and reasons thereof.

Demonstration

Break

Harmonics creation, a little or a lot, why the difference.

Spectrum Analyzer fundamentals.

How to properly quantify Harmonics, in Voltage, in Current.

Practice session

Break

Physical basis of a Capacitor.

Mechanism of internalizing alternating Voltage and Harmonics.

Difference between BV and V/m, and why one of them is of limited value.

Why using Shielding fabrics or paints may make matters worse.

Q & A

Lunch

Comparison of proper measurement techniques to DE metering.

Why proper measurement can match field characteristics.

What DE metering leaves out from reality.

The only method of properly applying filters, if deemed necessary*

*(necessity may arise more out of a PF correction, than DE).

Break

Scaling techniques: reducing measurement values for amplitude-limited instruments.

Computer setup, Windows or Mac, the latter preferred as the program is more flexible.

End of day

Day two:

Computer setup, Windows or Mac, not done previously.

Extracting information from limited instrumentation.

Practice session and Q & A.

Break

Relevance, or lack thereof, of measuring many outlets for DE.

Ohm's law.

Relevance of Modulation.

Spectrum presence of Harmonics, across Audio range, AM radio range, and beyond,

Break

Practice with instruments

Lunch

MPE (Maximum Permissible Exposure) discussion.

Generally accepted MPEs, and their basis, compared to SBM.

Discussion of RF Peak and Average, metering time constant.

Discussion of comparison incompatibility of instruments with different bandwidths.

Comparison of different instrument displays for verification purposes.

Break

Discussion of established cause and effect relationships

Q & A

End of day

Equipment requirement:

- 1) Your multimeter, if you can bring it, and (some) familiarity with it.
- 2) A laptop with a 3.5mm microphone input jack.

Additional equipment cost beyond event fee: Most likely, Zero.

Bear Creek Mountain Resort www.bcmountainresort.com, the venue, is available for skiing during winter, or hiking and swimming (pool) in summer, among other things.



However, please bear in mind that no claims are made to infer verification / insurance of electromagnetic or chemical inertness.

The materials and concepts presented are associated with real-world power system controls and availability. Confront the engineers, know if they're blowing smoke, tell them what they should know!

To receive credit for this mini-conference: <https://buildingbiologyinstitute.org/certifications/update-ceus/>

