

THE LOG PERIODIC

www.scvemc.org Santa Clara Valley Chapter of IEEE Electromagnetic Compatibility Society

IEEE/EMC Society Meeting: Tuesday, November 10, 2009

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Time: Social 5:30 p.m. Presentation 6:30 p.m.

Place: Applied Materials Bowers Cafeteria
3090 Bowers Ave., Santa Clara, CA 95051-0804

Subject: Magnetic Devices for EMC, SI, and Other Things

Speaker: Orin Laney, P.E.

Abstract:

Coils, chokes, inductors, transformers, baluns, and beads are workhorse components for EMC and SI work. Many see them as little black boxes that can magically solve certain problems, though they might offer no relief whatsoever if misapplied. As one of the few components that engineers routinely custom design -- if they know how -- understanding magnetic devices is a powerful advantage in our field. Our November speaker will review the basic principles and equations of magnetic circuits, discuss representative devices, show working examples, and offer some interesting case histories.

Speaker Bio:



Orin Laney is an independent consultant based in Santa Clara, CA. He bought his first coil winding machine as a teenager. Since then he has worked on coils so large that the wire has to be pounded with a mallet to conform it to the coil form to ones so small that an 8 henry choke is comparable to the eraser of a pencil. He has extensive experience with RF processing and instrumentation, cabling design, grounding and shielding, and design for SI performance and EMC compliance. Mr. Laney earned his BSEE at the University of Maryland, his MBA at Brigham Young University, is a NARTE certified EMC engineer and a California licensed PE. Among other topics, he teaches a public course in magnetics design through seminar provider Besser Associates and is authoring a book on high frequency magnetic components.

$$\nabla \times \vec{E} = - \frac{\partial \vec{B}}{\partial t}$$

$$\nabla \times \vec{H} = \frac{\partial \vec{D}}{\partial t} + \vec{J}$$

$$\nabla \cdot \vec{D} = \rho$$

$$\nabla \cdot \vec{B} = 0$$



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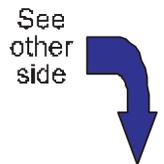
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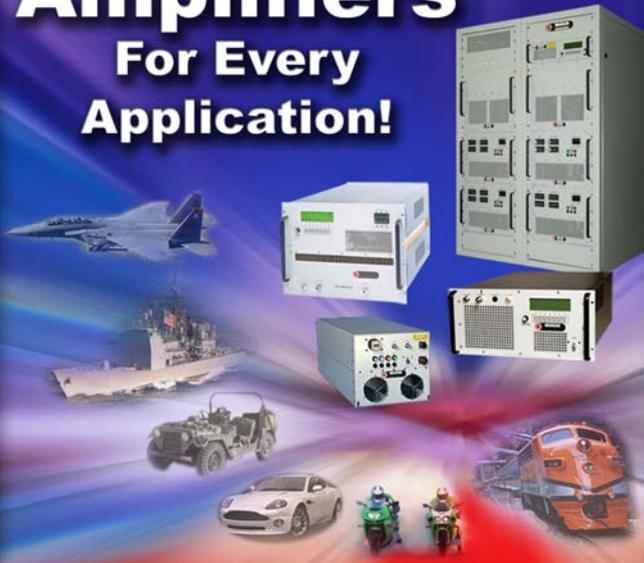
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