

PSMA Magnetics Committee

Survey

1. Industry Sessions: The PSMA Magnetics Committee has sponsored several Industry Sessions at APEC, usually every other year, alternating with the PSMA Capacitor Committee. The last Magnetics Industry Session was held in 2012 and the theme was: Trends for AC Power Loss of High Frequency Power Magnetics

Do you approve of this activity of the Magnetics Committee? _____

Do you recall the 2012 Session, if so is there any feedback that you can share with us?

The Magnetics Committee is considering an Industry Session for APEC 2014
A theme that has been suggested is “Transformers, chip scale to utility scale.”
The unique challenges of transformer design for different size and purpose are compared and contrasted.

Do you like this theme? _____

Do you have suggestions for a theme for an Industry Session at APEC 2014?

Do you have a suggestion(s) for a topic that could be the subject of a specific presentation within the Industry Session at APEC 2014?

2. Core Loss Studies at Dartmouth: The PSMA Magnetism Committee has sponsored three projects at Dartmouth.

1. Pilot Project: Core losses were studied in a ferrite core and a powdered metal core to see if a new method of estimating core loss was valid. It was found that adding off time between pulses increased the losses *per pulse*, thus showing that the *composite waveform hypothesis* was incomplete, though it was found to be easier to use and more accurate than other methods of estimating losses for low duty-ratio rectangular waveforms.

2. Phase II Project. The off-time loss phenomenon was confirmed on a large sample of ferrite cores. Dr. Sullivan showed that Fourier decomposition of complex waveforms is not valid for core losses.

3. Phase III Project. Additional testing was done on a string of cores equivalent of a toroid.

Do you approve of this activity of the Magnetism Committee? _____

Do you have suggestions for continued core loss studies?

3. Book reprints: For a number of years, the PSMA Magnetism Committee has been reprinting classic books on magnetism. Example are:

1. Transformers for Electronic Circuits Nathan Grossne
2. Soft Ferrites, Properties & Applications E.C. Snelling 2nd edition
3. Electronic Transformers and Circuits Lee, Reuben, L. Wilson, C. E. Carter
4. Modern DC to DC Switchmode Power Converter Circuits Severns & Bloom
5. Applications of Magnetism J.K. Watson
6. Handbook of Standardized Terminology For The Power Sources Industry 3rd Edtn
7. Units Symbols and Style Guide For Power Electronics Documents
8. The Power Technology Roadmap Report (2013)
9. The Power Technology Roadmap Report (2011)
10. Technology Report – Review of Commercial Development In Power-Supply in Package and Power Supply on a Chip (2009)

The reprints have been sponsored by PSMA, and the costs are recovered through sales.

Do you approve of this activity of the Magnetism Committee? _____

Do you have suggestions about other out of print classic books that should be reprinted (they do not necessarily have to be about magnetism)?

4. Resources Tab: In the PSMA Website there is a **Magnetics Forum**, and within that Forum is a Resources tab. The committee is actively populating this web location and is looking for suggestions.

Do you have suggestions for additions to the Magnetics Forum Resources site?

5. Monthly Meetings: The Magnetics Committee meets monthly, typically the 3rd Thursday of every month at 11:00AM Central time.

Have you ever participated in a committee meeting? _____

Does a potential Industry Session in 2014 give you additional interest in participating? _____

Is there a better time for the monthly meeting that would allow you to participate?

6. Other: What other projects and activities should the Magnetics Committee consider?
