Switched Mode Power Supply & PSpice Simulation Course

Based on many years of design and simulation experience in Terma A/S I have developed a course that comprises the main topics of SMPS design and how to build PSpice simulations to support and verify the development.

My experience is mainly gained from space industry with design of spacecraft power system functions that require high reliable and very efficient designs where PSpice has been used for decades in development simulations as well as for system robustness approval. My course comprises the following:

1. Applied DC/DC converter topologies
2. Structured design and simulation
3. Converter linear models
4. Regulation
5. Peak current control
6. 5W Buck converter example
7. 2W Flyback converter design example
8. Magnetics
9. Parasitic elements damping
10. Design for EMC
11. Design exercises
12. PSpice tips
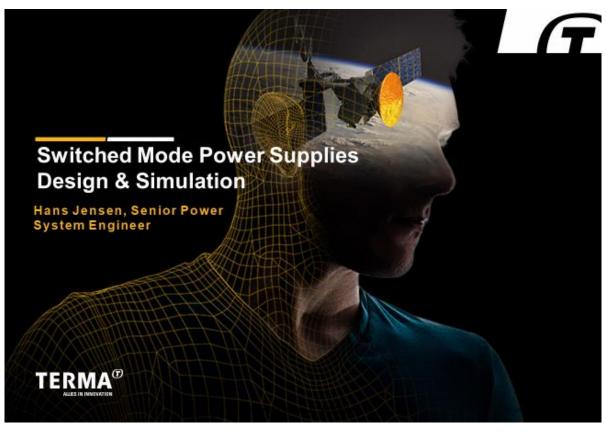13. PSpice model creation / import / test

All education items are based on design examples created in Capture and simulated in PSpice.

The linearization method is based on my own unique method that can be applied for all SMPS topologies and that creates a behavior identical to the real-time switching design in a simple way. This method allows PSpice to calculate through SMPS mode transitions as a continuous calculation without mode switching or dis-continuous functions.

I have executed the course in Denmark in corporation with the Nordic Cadence representative Nordcad so far five times as two-day courses, for companies as well as in Norcad arranged open courses.

The course includes delivery of a ~200 pages document and number of useful Capture/PSpice files with exercises, application examples, models, etc.

Introduction slide to the course

Hans Jensen

E-mail: haj@terma.com

Telephone: +45 40 82 34 00