



Charging a li ion efficiently with a single-inductor battery-charging voltage regulator

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BIO

Gabriel A. Rincón-Mora is Motorola Solutions Foundation Professor at Georgia Tech, Fellow of the National Academy of Inventors, Fellow of the IEEE, and Fellow of the Institution of Engineering and Technology. He's been with Georgia Tech since 2001 and worked for Texas Instruments in 1994–2003. He was inducted into Georgia Tech's Council of Outstanding Young Engineering Alumni, named one of "The 100 Most Influential Hispanics" by Hispanic Business magazine, and included in "List of Notable Venezuelan Americans" in Science. Other distinctions include the National Hispanic in Technology Award, Charles E. Perry Visionary Award, Three-Year Patent Award, Orgullo Hispano Award, Hispanic Heritage Award, and State of California Commendation Certificate. His body of work includes 11 books, 8 handbooks, 4 book chapters, 42 patents, over 190 articles, 25 educational videos, over 26 commercial power-chip products, and over 150 keynotes/speeches/seminars.

ABSTRACT

Charging batteries in cell phones and other small electrics with other batteries (in battery banks or laptops) is increasingly normal these days. Volume and charging efficiency are critical in this space because both, source and load, lose energy they need and cannot recover. Charging batteries in a way that maxes their efficiency is therefore as important as transferring energy with efficiency. This research seminar shows how li ions respond to different charge profiles and how a single switched inductor can charge a li ion efficiently while at the same time supplying a load with a steady supply voltage.

Friday, July 22, 2022 at 1:00 – 2:00 p.m.
Osborne Conference Room (ECSS 3.503)