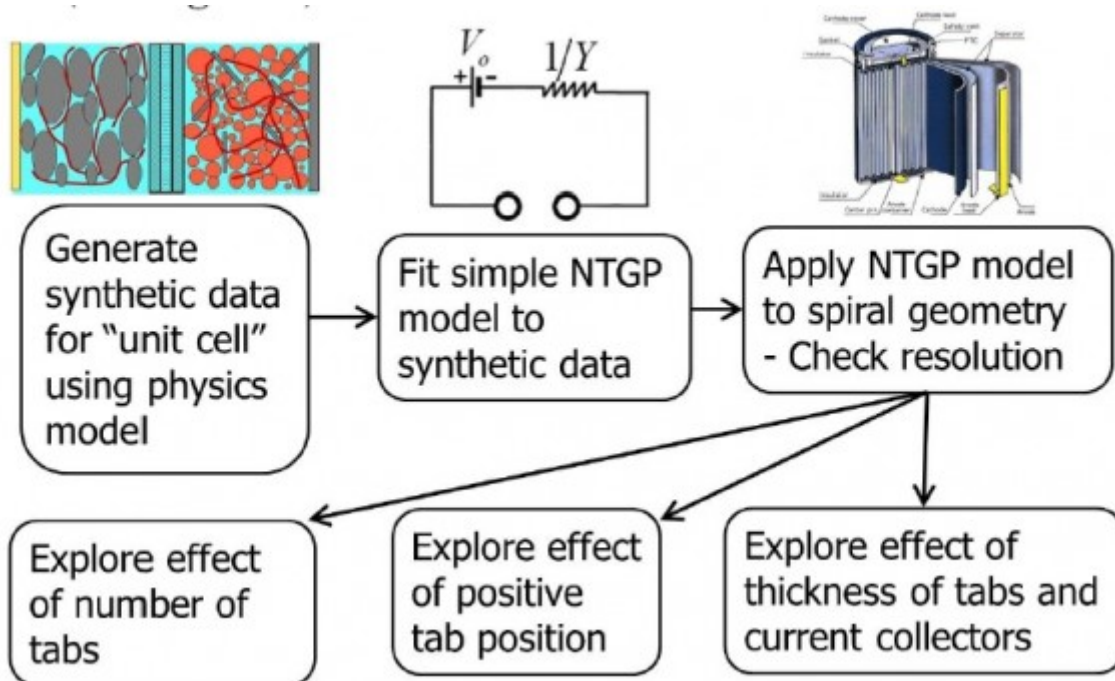


Design and Simulation of Spirally-Wound Lithium-Ion Cells

**Publisher:**

ECS Transactions

Date:

Thursday, April 25, 2013

Abstract:

A general approach for the design of cylindrical and prismatic spirally-wound lithium-ion cells that accounts for arbitrary tabbing and coating patterns is presented. Examples are presented for design of high-power and high-energy 18650 size cells. For highenergy cells the current collector design is not critical while for high-power cells the tabbing design is significant especially when thermal effects are considered.

 [Design and Simulation of Spirally-Wound, Lithium-Ion Cells Paper 5891 .pdf_{\[1\]}](#)

Author Name:

Robert Spotnitz
Steve Hartridge
Gaetan Damblanc
Gowri Yeduveka
Donald Schad
Venugopal Gudimetla
Jeffery Votteler
Gene Poole
Chris Lueth

Christian Walchshofer

Evan Oxenham

Author Company:

Battery Design LLC, 2277 Delucchi Drive, Pleasanton, CA 94588

CD-adapco, 60 Broadhollow Road, Melville, NY 11747

Products:

Battery Design Studio^[2]

Industries:

Batteries^[3]

CD-adapco is the world's largest independent CFD focused provider of engineering simulation software, support and services. We have over 30 years of experience in delivering industrial strength engineering simulation.

Source URL: http://www.cd-adapco.com/technical_document/design-and-simulation-spirally-wound-lithium-ion-cells?page=3

Links:

[1] [http://www.cd-](http://www.cd-adapco.com/sites/default/files/technical_document/pdf/Design%20and%20Simulation%20of%20Spirally-Wound%2C%20Lithium-Ion%20Cells_Paper_5891_.pdf)

[adapco.com/sites/default/files/technical_document/pdf/Design%20and%20Simulation%20of%20Spirally-Wound%2C%20Lithium-Ion%20Cells_Paper_5891_.pdf](http://www.cd-adapco.com/sites/default/files/technical_document/pdf/Design%20and%20Simulation%20of%20Spirally-Wound%2C%20Lithium-Ion%20Cells_Paper_5891_.pdf)

[2] <http://www.cd-adapco.com/products/battery-design-studio%C2%AE>

[3] <http://www.cd-adapco.com/industries/batteries>