Contribution ID: **539** Type: **Oral**

Transient Loading of Ultracapacitors*

Monday 24 June 2019 11:00 (15 minutes)

Ultracapacitors are of increasing interest in the high voltage community due to their ability to source high transient power while also offering a modest energy density. A market study of commercially available ultracapacitors finds several different models available with slightly different internal resistance, energy density, and power density parameters, among others. Hybrid ultracapacitor technologies, such as lithium-ion capacitors, have also been developed that have much higher energy density with nearly the same power density. In the work presented here, a few different commercially available off the shelf ultracapacitors and lithium-ion capacitors have been procured and evaluated into a low impedance load, few hundred micro-Ohms, in a transient manner. The design of experiments as well as the impedance and power density results obtained will be presented.

Authors: Mr NYBECK, Charles (University of Texas at Arlington); WETZ, David (University of Texas at Arlington); Mr DODSON, David (University of Texas at Arlington); Mr JOHNSTON, Alexander (University of Texas at Arlington); Dr HEINZEL, John (Naval Surface Warfare Center - Philadelphia Division)

Presenter: Mr JOHNSTON, Alexander (University of Texas at Arlington)

Session Classification: 10.1/10.2 Converters, Components,Magnetics, Swiches and Capacitors

Track Classification: 10.2 Components, magnetics, switches, capacitors