

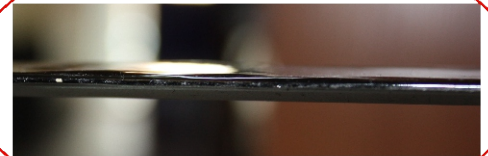
ULTRACAPACITORS EMBEDDED IN CONSTRUCTIONS

Mechanical excitation of embedded ultracapacitor

The ultracapacitors developed by our team were embedded in a mechanical construction and a series of tests were conducted. For this purpose, we developed a special stand, which allowed the study of ultracapacitors' electro-mechanical properties. The ultracapacitor mounted on the test stand is almost invisible due to the way it was built, and its thickness is less than 1 mm.

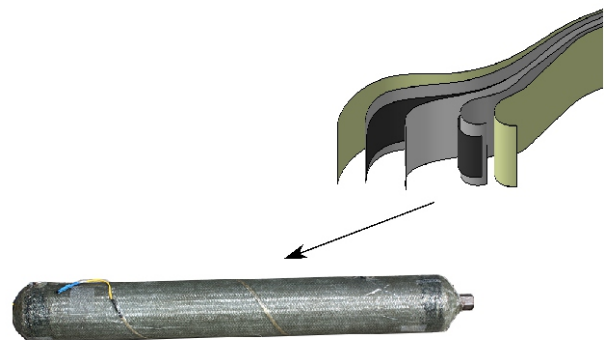
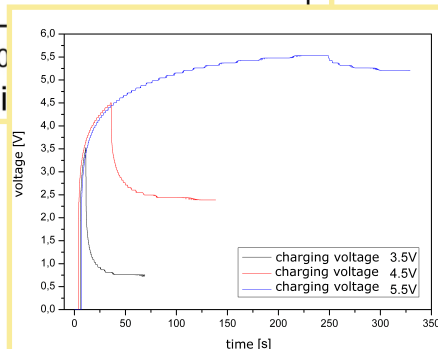
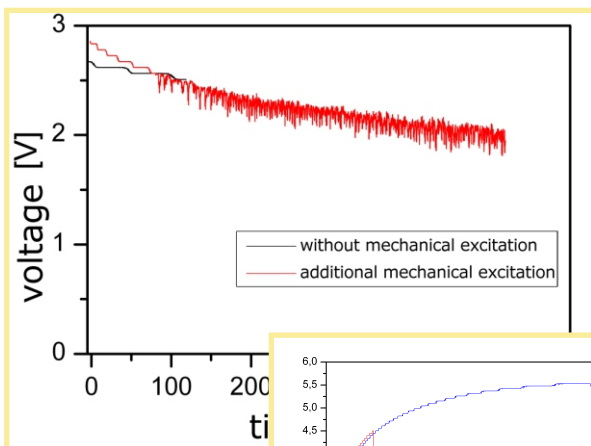
Our ultracapacitors:

- have extremely high capacity,
- have small dimensions,
- are easily attachable to mechanical constructions,
- allow to power a small control device,
- make it possible to generate additional voltage under an influence of mechanical force (vibrations).



Our solution can be used in various areas connected with energy, where it can:

- capture power from different harvesting devices,
- provide energy for embedded Structural Health Monitoring sensors,
- provide energy to data transmitters in Wireless Harvesting Nodes,
- be attached to the different surfaces, from inner surface of car roof and side panels, to the mechanical constructions, airplane wings and even computer housings,
- provide power to any application that requires quick discharge and charge of power,
- act as a backup power system in harvesting nodes.



Contact person:

Rafał Mech
rafal.mech@pwr.wroc.pl
Continuum Mechanics Division
Wrocław University of Technology (WRUT)

Institute of Materials Science and Applied Mechanics
Ul. Smoluchowskiego 25
50-370 Wrocław
POLAND