Accepted Manuscript

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PII: S0025-5408(17)32313-9
DOI: https://doi.org/10.1016/j.materresbull.2018.03.006
Reference: MRB 9887

To appear in: *MRB*

Received date: 12-6-2017
Revised date: 2-3-2018
Accepted date: 3-3-2018

Please cite this article as: Zhang G, Chen Y, Chen Y, Guo H, Activated biomass carbon made from bamboo as electrode material for supercapacitors, *Materials Research Bulletin* (2010), https://doi.org/10.1016/j.materresbull.2018.03.006

Activated biomass carbon made from bamboo as electrode material for supercapacitors

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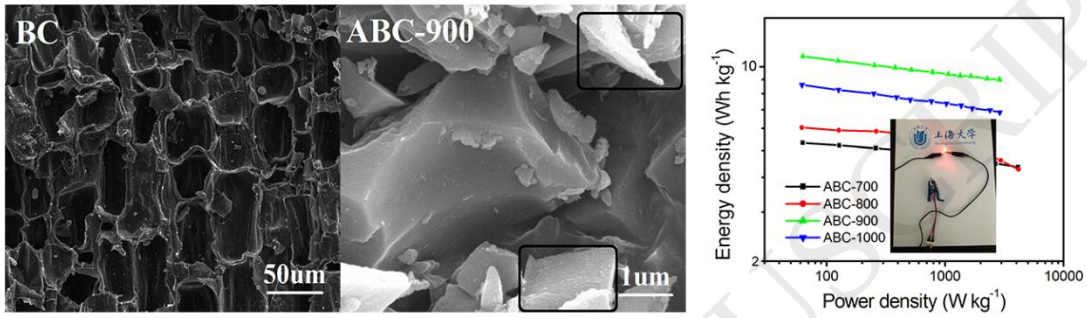
Graphical Abstract



The highlights of this work can be listed as followed:

- Activated biomass carbon (ABC) produced from bamboo was prepared by carbonization and KOH activation .
- The BET and morphology of the ABC have a strong dependence on the activation temperature.
- High specific capacitance along with durability is achieved.
- Activated biomass carbon can serve as efficient electrode material for energy storage.

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Abstract:

Activated biomass carbons (ABC) produced from bamboo by carbonization and activation have high specific surface areas and mesoporous structures. The specific surface area, total pore volume, and average pore size of the activated biomass carbon are controlled by adjusting the activation temperature from 700 to 1000 °C. The carbon materials activated at 900 °C have an optimal mesoporous structure with a