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**Yongjin Zou**

Cuili Xiang, Fen Xu, Lixian Sun\*

Material Science and Engineering, Guilin University of Electronic Technology, 1# Jinji Road, Guilin, 541004  
Chinazouy@guet.edu.cn

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## Functionalized porous carbon for high performance supercapacitors

Porous carbon-based nanomaterials such as graphene, carbon nanotubes, carbon nanosheets and carbon nanosphere are still the first choices for fabricating the electrodes of supercapacitor because of their excellent stability, good conductivity, and large surface area [1]. However, the capacitance of carbon-based materials is intrinsically low, which limit their wide application. Doping carbonaceous materials with a conducting polymer or transition metal compounds to generate pseudocapacitance is effective way to improve their electrochemical performance [2-4]. In this study, porous carbon was functionalized with transition metal oxides, conducting polymer and heteroatom for the purpose of supercapacitive enhancement. The electrochemical performance of the supercapacitor was studied in detail.

### References

- [1] Y. Zou, Q. Wang, C. Xiang, Z. She, et al., *Electrochim. Acta*, 2016,188, 126-134.
- [2] C. Xiang, Q. Wang, Y. Zou, et al. *J. Mater. Chem. A*, 2017,5, 9907-9916.
- [3] Y. Zou, C. Cai, C. Xiang, et al. *Electrochim.a Acta*, 2018,261,537-547.
- [4] C. Cai, Y. Zou, C. Xiang, et al., *Appl. Surface Sci.*, 2018, 440, 47-54.