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Thermally reduced graphite oxide-titanium dioxide composites for supercapacitors

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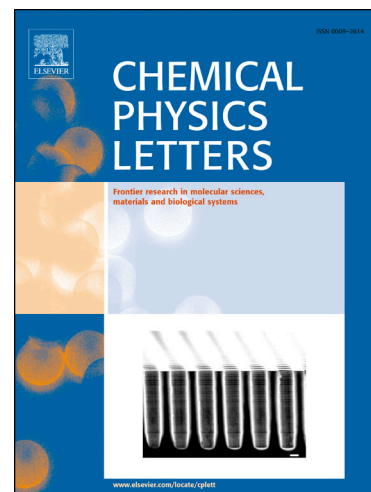
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Thermally reduced graphite oxide-titanium dioxide composites for supercapacitorsGyawali Ghanashyam¹ and Hae Kyung Jeong^{1,2,*}¹*Department of Physics, Institute of Basic Science, Daegu University, Gyeongsan 712-714,**Republic of Korea*²*Department of Materials-Energy Science and Engineering, Institute of Industry and**Technique, Daegu University, Gyeongsan 712-714, Republic of Korea***ABSTRACT**

Thermally reduced graphite oxide and titanium dioxide (TRGO-TiO₂) composite is synthesized by using a simple chemical method for supercapacitor applications. The TRGO-TiO₂ composites have higher capacitance than that of each precursor, such as GO, TRGO, and TiO₂. Electrochemical performance of the composites with different weight ratio of TRGO to TiO₂ is also investigated, and optimal ratio for the best performance is 7 to 3, resulting in the specific capacitance of 380 Fg⁻¹. The best performance of the TRGO-TiO₂ composite is attributed to synergic effect of the high electrical conductivity supported by TRGO and electroactive property of TiO₂.

Keywords: Titanium dioxide, graphite oxide, reduced graphite oxide, supercapacitor

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