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Electrical Properties of a Graphene-based Polymer Nanocomposite. GEOFFREY DOMMETT, DMITRIY DIKIN, ERIC ZIMNEY, SASHA STANKOVICH, RODNEY RUOFF, Northwestern University — A polymer/CMG (chemically modified graphene) composite has been prepared by a solution-based processing technique followed by hot pressing or injection molding to prepare continuous sample specimens. The electrical properties of these composites have been measured by 2- and 4-probe techniques, as a function of temperature and concentration to investigate the mechanisms by which electrical transport occurs in a composite with single graphene sheet filler material, and the percolation threshold at which conduction occurs. We gratefully acknowledge the *NASA University Research, Engineering and Technology Institute on Bio Inspired Materials (BIMat)* under award No. NCC-1-02037.

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