Abstract Submitted
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Graphene-based polymer nanocomposites: a new class of materials[1] DMITRIY DIKIN, SASHA STANKOVICH, GEOFFREY DOMMETT, KEVIN KOHLHAAS, ERIC ZIMNEY, RICHARD PINER, XINQI CHEN, SONBINH NGUYEN, RODNEY RUOFF, Northwestern University — We have developed an approach that yields a new class of materials: the graphene-based materials. I present our 'bottom up' approach to achieving highly dispersed chemically modified graphene (CMG) sheets in polymer composites. A host of novel studies of both individual CMG sheets as well as of the CMG sheet-based nancomposites, is thus now possible. An overview is given of the level of dispersion of the CMG sheets and their morphology in the composites, and of the composite thermal/electrical conductivity and thermomechanical properties. I also discuss our deposition of individual sheets and studies of them.

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