Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Thermomechanical Properties of Polystyrene-MWNT Nanocomposites.[1] ANUPA GEORGE, SUDEEPTO SEN, YUPING XIE, SCHADLER LINDA, SANAT KUMAR, Rensselaer Polytechnic Institute — In this work we have studied the thermomechanical properties of polystyrene nanocomposites-MWNTs (Multi-walled carbon nanotubes) concentration. A number of different combinations of the matrix and the filler concentrations are being analyzed to study the effect on glass transition temperature using differential scanning calorimetry and a dynamic mechanical analyzer. FE-SEM (Field Emission Scanning Electron Microscope) is being used to study the dispersion and interaction of nanotubes in the matrix. We show that the thermomechanical properties of these materials are very similar to composites with SWNT, thus suggesting that the tube stiffness may not play an important role in this context.

[1]NSF-NSEC

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Date submitted: 30 Nov 2005 Electronic form version 1.4