

Abstract Submitted  
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**Spectroscopic Investigations on Polypropylene – Carbon Nanofibers Composites**<sup>1</sup> MIRCEA CHIPARA, The University of Texas Pan American, JONES BRIAN, University of Nebraska Lincoln, KAREN LOZANO, JOHN R. VILLAREAL, ALIN CRISTIAN CHIPARA, ANNA HERNANDEZ, MAGDALENA DORINA CHIPARA, The University of Texas Pan American, DAVID J. SELLMYER, University of Nebraska Lincoln — Nanocomposites were obtained by high-shear mixing of isotactic polypropylene (Marlex HLN-120-01; Philips Sumika Polypropylene Company) with various amounts of vapor grown carbon nanofibers (PR-24AG; Pyrograf Products, Inc) by utilizing a HAAKE Rheomix at 65 rpm and 180 °C for 9 min followed by an additional mixing at 90 rpm for 5 min. Composites loaded with various amounts of vapor grown carbon nanofibers have been prepared. Wide angle X-Ray scattering investigations focus on the effect of carbon nanofibers on the crystalline phases of polypropylene and on the overall crystallinity degree of the polymeric matrix. Raman spectroscopy analysis concentrates on D and G bands. X-band electron spin resonance investigations aim at a better understanding of the purity of carbon nanofibers and of the ratio between conducting and paramagnetic.

<sup>1</sup>ESR measurements were performed within the laboratory of Professor Andrzej Rajca from the Chemistry Department of the University of Nebraska Lincoln.

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