Abstract Submitted
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Investigation of the self-healing mechanism of poly (ethylene co-methacrylic acid) copolymers utilizing ultrasonic time dependent resonant spectroscopy NICHOLAS R. BOWERS, KENNETH A. PESTKA II, Rollins College, STEPHEN J. KALISTA, JR., Union College — The ultrasonic resonant spectra of four different poly (ethylene-co-methacrylic acid) copolymers (EMAA copolymers) have been obtained using the Time Dependent Resonant Spectroscopy (TDRS) method. The spectra of these EMAA copolymers, developed by DuPont (commercially known as: Nucrel 925, Nucrel 960, Surlyn 8920, and Surlyn 8940), were analyzed. Evolution of resonances and the associated energy dissipation within the samples were observed over a period of $10 \sim 50$ hours. Results quantifying the influence of chemical properties (including molecular weight and ionic content), age, and damage mechanism on the self-healing response will be presented.

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