Abstract:
Natural rubber nanocomposites were prepared using centrifuged latex and magnetite nanoparticles (10, 15, and 20% m/m). In the first method the particles were added to centrifuged latex and stirred for 15 minutes at 30 °C while in the second one the reaction to obtain the magnetite particles was realized inside the latex. It was preserved with 4, 6, 8, 10, and 12 mL of NH₄OH/400 mL of latex. SEM and EDS were used to characterize the magnetite particles and the nanocomposites, the particles were analyzed by X ray diffraction. The viscosity of the latex and magnetic suspensions were characterized using a Brookfield DV-ll+Pro viscometer, indicating orientation of nanoparticle agglomerates and its destruction, while the particle in latex rubber suffer a destruction and reconstruction process. The In Situ method dispersed well the magnetite particles in natural rubber matrix as was observed in SEM image, suggesting a competitive method to obtain these nanocomposites.