

Effect of silica for the PVA/CuNW suspension about degree of dispersion under the LAOS flow

이승학, 현 규[†]

부산대학교

(kyuhyun@pusan.ac.kr[†])

Slurry and suspension have had a many attention for lots of industries. Because those system contain many particles, degree of dispersion of particles represent important role to the electrical or mechanical properties. Among the many methods to analyze the degree of dispersion, rheological behavior analysis such as small and large amplitude oscillatory shear (SAOS and LAOS) test were selected. We studied about the effect of the silica in the PVA/CuNW aqueous suspension. Interestingly, complex viscosity of PVA/CuNW suspensions with silica was lower than that of PVA/CuNW suspensions without silica under the SAOS test. Through the FT-rheology of the LAOS test results, relative third intensity showed “bump” for the PVA/CuNW suspensions and it disappeared by adding silica. Furthermore, NLR from simple calculation by using the SAOS and LAOS test results showed the degree of dispersion for the suspension, quantitatively. This result accords closely with the comparison of microscopic images.