

Direct observation of nanoparticle growth with liquid cell TEM and ensemble analysis

김주덕, 김병효, 정준혁, 박건우, 박정원[†]

서울대학교

(jungwonpark@snu.ac.kr[†])

Liquid cell TEM has been developed for high resolution *in-situ* study of chemical reactions occurring in liquid environment. Especially in colloidal science, liquid cell TEM provides an opportunity to observe real-time nanoparticle growth with sub-nm resolution. However, analyzing the massive data obtained from *in-situ* liquid phase TEM is highly challenging and may require computational methods. The time-series of TEM images is interpreted by using image processing method and evaluated to track growth of particle ensemble using the computational algorithm developed by our group.