

Abstract Submitted
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Ionic self-assembly of silica nanoparticles: time-dependence of surface coverage KATY WILSON, BRIAN SIMPSON, VINCENT KIM, ANDREW SEREDINSKI, WILL BANKS, DAN MAZILU, IRINA MAZILU, Washington and Lee University — We investigate the deposition by ionic self-assembly of alternating silica nanoparticle and poly(allyamine hydrochloride) layers. The optical properties of these coatings depend on the surface coverage of the substrate. We report experimental data for the surface coverage of the substrate as a function of dipping time. We model this process using a cooperative sequential adsorption model on a Cayley tree. We compare the analytical and experimental results and discuss possible generalizations of the model.

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