

Supplement to "Time Dependence of Immersion Freezing: An Experimental Study on Size Selected Kaolinite Particles"

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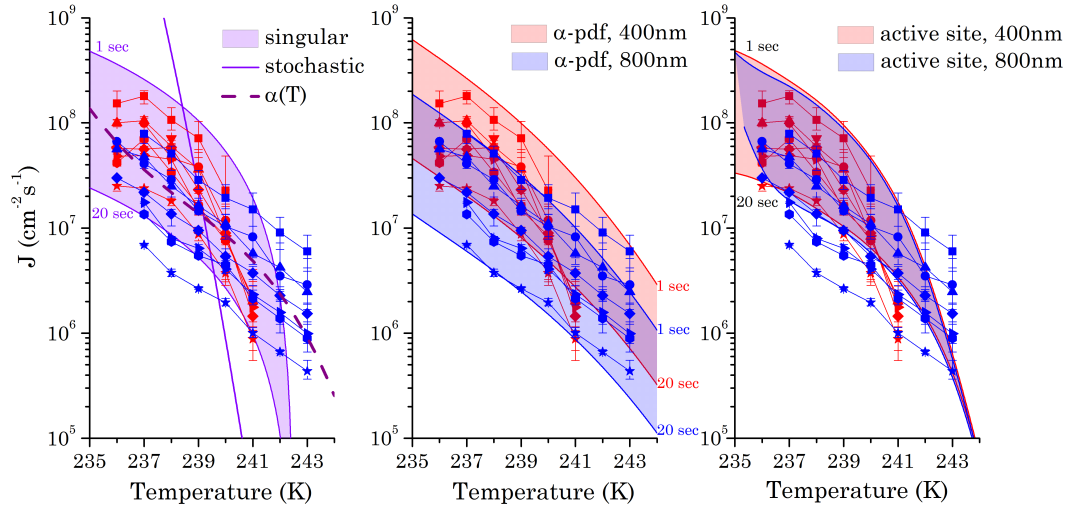


Figure 1. Nucleation rates of experimental data for 400 and 800 nm kaolinite particles with residence times between 1.1 s and 21.4 s are shown as symbols. As an example, nucleation rates calculated from the models are shown for 1 s and 20 s nucleation time and the range spanned by these two lines is shown against a blue background for 800 nm and a red background for 400 nm respectively. Nucleation rates for the singular and semi-stochastic ($\alpha - pdf$ and active site) models were calculated indirectly by first deriving the frozen fraction from the models and using the obtained frozen fraction as input in the stochastic formulation of nucleation rates given by $J_{\text{het}} = -\frac{\ln(1-FF)}{A \cdot t}$.

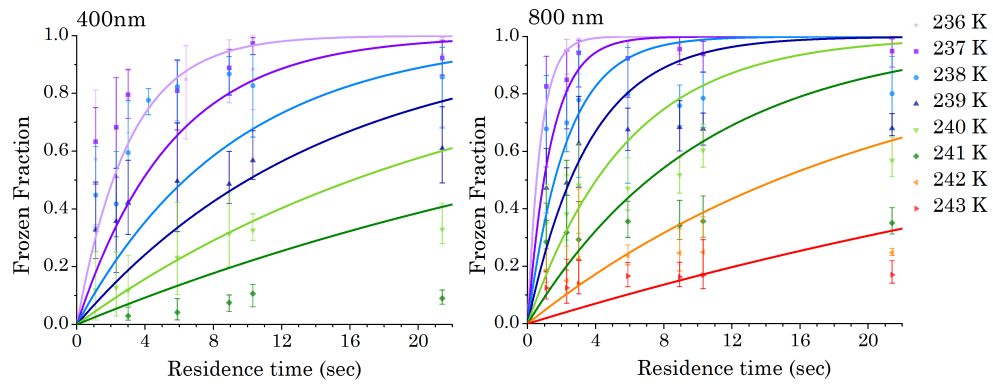


Figure 2. Comparison of the fit curves obtained from a stochastic description of the nucleation process with a temperature dependent contact angle for 400 and 800 nm kaolinite particles. Measurements of the frozen fraction with residence times between 1.1 s and 21.4 s are shown as symbols.