Continuous Kinetic Rate Equation Model for Crystallization Process

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Kinetic rate equation model has been used to explain formation of subcritical radius crystals and Ostald ripening in a single, continuous model. However, the previous literature has been confined by few assumptions which makes it hard to apply to actual industrial process conditions. Assumptions such as isothermal condition cannot be applied in actual industrial processes without loss of generality. In this work, gradual temperature change is taken into account, and according parameters will be turned into variables. Also, as a result of temperature change, degree of supersaturation will function more than just initial boundary condition of the model, as solubility of the system decreases with temperature.