

Abstract Submitted  
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**Reconsideration of Over-All Crystallization Behavior based on Avrami Equation.** NORIMASA OKUI, Tpkyo Institute of Technology, KENICHIRO USUDA, SUSUMU UMEMOTO, DEPARTMENT OF ORGANIC AND POLYMERIC MATERIALS TEAM — It has been widely known that Kolmogorov-Johnson-Mehl-Avrami (KJMA) equation can express the time dependence of over-all crystallization. In general, KJMA Eq. has been induced on the assumption of sporadic nucleation with the constant nucleation rate or instantaneous nucleation with the constant nuclear density. However, actual nucleation behavior is clearly different from these assumptions, since the number of nuclei increases with time following the s-shaped curve with the limited number of nuclei. In general, the Avrami exponent has been observed to be non-integer number, since it should be integer number in theoretical sence. In this study, over-all crystallization behavior with two-dimensional growth for poly(ethylene succinate) was measured. The over-all crystallization behavior calculated with the actual experimental nucleation rate was completely coincided with the experimental over-all crystallization curve.

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