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Title	Prediction of the domain structure in ternary polymer blend
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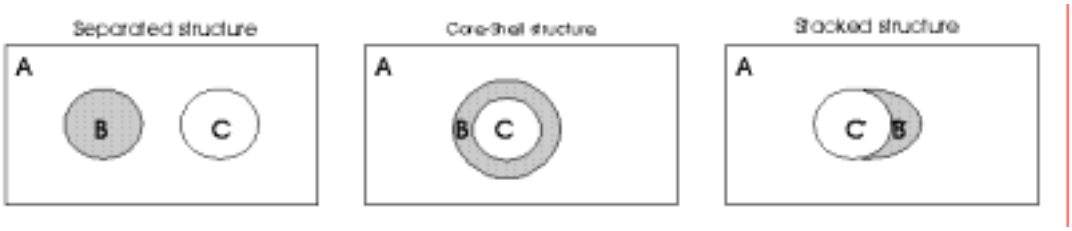
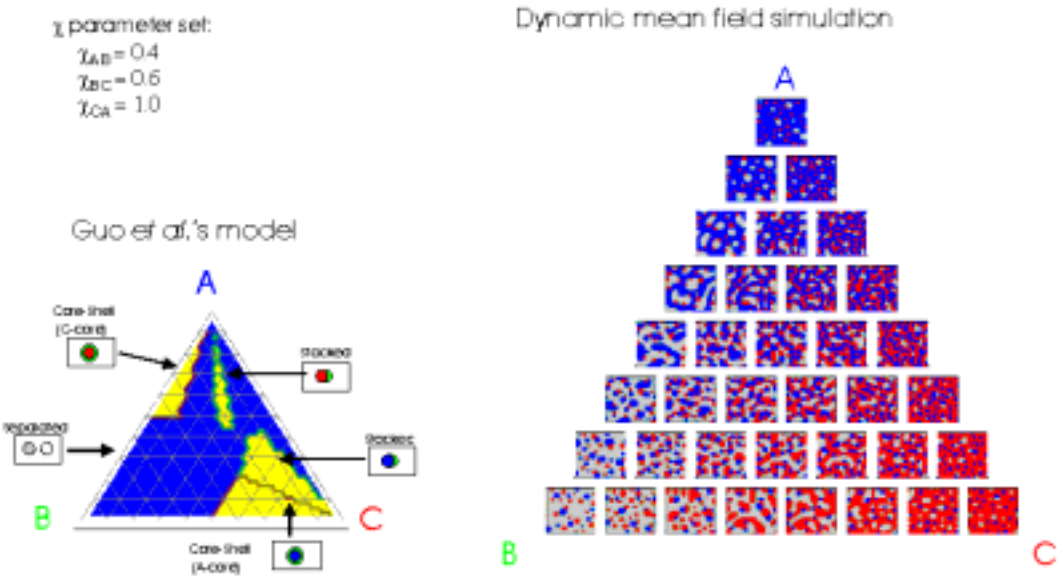
Purpose of this study	To clarify the relationship among the domain structure, the interaction parameters, and the volume fraction of the ternary polymer blends, the Scheutjens-Fleer-Fry mean field calculation for a model system was performed.
System (Material)	The model system of ternary polymer blend
Program (including analysis)	Mesosimulator Release 981127, Release990304 Mesosimulator-Viewer (analysis tool)
Method & Some important input parameters	(Method) the Scheutjens-Fleer-Fry mean field theory, the model of Guo *et al.* (Input) the interaction parameter, chain length, the blend ratio
Advance & Problem	We reproduce the domain structure change as the change of the interaction parameter and the blend ratio for same set of polymer blends. This results were consistent with the estimation based on Guo *et al.* model (*Polymer*, **38**, 785 (1997)).
Reference	[Manuscript] Accepted *Prog. Theor. Phys. Suppl.* 412, No. 138 (2000) [Presentation] The 5th International Conference on Computational Physics (ICCP5) P2-30 (1999)
KeyWord (in English)	Ternary polymer blend, domain morphology, core-shell structure, dispersed structure, stacked structure, interfacial tension, Guo *et al.* model

Results (Remarks)

For analysis, the domain structure was classified into three classes: separated, core-shell and stacked structures.



Based on this classification, we obtained the phase diagram of ternary homopolymer blend by using the interfacial energy estimation (Guo model) and the dynamic mean field simulation. The following figures are one of the example for a set of interaction paramters.



By the Guo *et al.* model, we can reproduce the domain structure near the region of the triangle corner in phase diagram. We should perform the dynamic mean field simulation to predict the domain structure in the other region.