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[\[PDF \(630K\)\]](#) [\[References\]](#)STUDY ON MULTI-SCALE MODELING OF PLASTICITY BY
ATOMIC MODELIsao SAIKI¹⁾, Shigeri KANKE²⁾, Akinori NAKAJIMA³⁾ and Kenjiro TERADA¹⁾

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By virtue of the development of metallurgy and the theory of dislocation, one can qualitatively anticipate the mechanical properties of a material from its microstructure. Moreover, not qualitative but quantitative and precise anticipation is more beneficial for efficient development of new materials. In this context, we utilize a multi-scale method with atomic model, which is a particle system that has potential, and discuss the possibility of quantitative anticipation of material properties including plastic deformation through several representative numerical examples.

Key Words: multi-scale modeling, atomic model, molecular dynamics, plastic deformation, dislocation

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