

**BaTiO<sub>3</sub> 계에서 전위가 입계이동과 입자성장에 미치는 영향****Effect of Dislocations on Grain Boundary Mobility and Grain Growth  
in BaTiO<sub>3</sub>**

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Dislocation-promoted crystal growth from a solution has been well documented in the literature and has been explained by easy attachment of atoms at the ledges formed by dislocations. Grain growth promotion by dislocations has also been reported in SrTiO<sub>3</sub> when a liquid film was present at grain boundaries. The present investigation studies the effect of dislocations on grain boundary mobility and grain growth in a model system, BaTiO<sub>3</sub>. Single crystal and polycrystal bi-layer samples were prepared and annealed below the eutectic temperature. The crystal with a higher dislocation density grew faster than that with a lower dislocation density, showing that the boundary mobility is not constant but can be enhanced by dislocations. The result can be well explained in terms of the nonlinear relationship between the boundary migration rate and the driving force for faceted boundaries.