

||||| 特集：結晶成長メカニズム |||||
(原著論文)

三元系合金凝固のその場観察と特性量に対する重力の影響

宮田 保教・桜田 洋介*・上村 靖司・永澤 茂

In-situ Observation of Interfacial Morphology in the Solidification of Ternary Alloy and Effect of Gravity on its Dimensions

Yasunori MIYATA, Yousuke SAKURADA, Seiji KAMIMURA and Sigeru NAGASAWA

Abstract

The solidification morphology in the solidification of ternary alloy, succinonitrile-ethanol-acetone, is observed in-situ. Peculiar morphology to ternary alloy solidification is found near the monotectic composition of the alloy. Dimensions of the morphology is about one order of magnitude smaller than those of ordinary dendrites in the same solidification conditions (the growth rate and temperature gradient). In the microgravity condition the dimensions become larger than those solidified on the ground.