Quantification of local mobilities

A new method for quantification of mobilities of local recrystallization boundary segments is presented. The quantification is based on microstructures characterized using electron microscopy and on determination of migration velocities and driving forces for local boundary segments. Pure aluminium is investigated and the results show that even for a single recrystallization boundary, different boundary segments migrate differently, and the differences can be understood based on variations in mobilities and local deformed microstructures. The present work has important implications for understanding of recrystallization boundary migration, and suggests an experimental way forward for how to determine boundary mobilities during recrystallization.