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*Boltzmann-Type Modeling of Two-Dimensional Grain Growth in Polycrystals.* Preliminary report.

We study the mesoscopic behavior of a grain boundary network and propose a novel two-dimensional model describing the evolution of the distribution of misorientations. The model obtained is able to capture both small grain disappearances and neighbor switching events. The collision rate parameters involved can be estimated numerically from a large-scale simulation. From this we are able to predict steady-state statistics as well as coarsening rates for normal isotropic grain growth. (Received September 22, 2015)