

## Review of Mechanisms of Nanograin Generation

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**Abstract.** A brief review of the theoretical models which describe specific plastic deformation mechanisms of nanograin generation in nanocrystalline and ultrafine-grained materials is presented. In the framework of the models, formation of new nanograins and nanograin chains occur through stress-driven splitting and migration of grain boundaries near crack tips and grain boundary structures containing disclination dipoles and quadrupoles. Stress-driven migration of mobile grain boundaries serves as a specific plastic deformation mode and results in formation of new nanograins and nanograin chains.

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