

## Review on Theoretical Models of Void Evolution in Crystalline Particles

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**Abstract.** In the review, the up-to-date theoretical research of various aspects of void evolution problem in hollow crystalline micro- and nanostructures is summarized. A classification of hollow architectures of micro- and nanostructures distinguishing the main procedures of void (pore) production as well as the influence of the voids on functional properties of the devices based on hollow structures, is suggested. The factors responsible for the void evolution process are discussed. Finally, theoretical models of the void evolution describing shrinkage and growth processes in particles of various structures are considered in terms of kinetics and thermodynamics concepts.

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