



Computer-Aided Design and Modeling of Materials at Different Scales

Guest Editor:

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Message from the Guest Editor

Currently, the computer-aided design of an internal structure is a key component in the development of materials with standard or new mechanical, thermophysical, chemical, and other properties. Due to the multiscale structure of materials, structural elements of various spatial scales contribute to their macroscopic response. Computer modeling not only enables better understanding of the advantages and limitations of an existing or proposed design, but also to discover ways to qualitatively change the structure to achieve advanced macroscopic characteristics. In this regard, the development of a methodology for multiscale modeling and design, which allows collating research results at the current scale, to higher structural scales, up to the level of the final product, is highly relevant.

Keywords

- computer-aided design
- computer modeling
- advanced materials
- internal structure
- multiscale
- multiphysics
- computational methods





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