

Perspective／展望

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A new national project concerning the materials informatics (MI) research has been started from July 1st 2015 in the NIMS; which called MI²I (Materials research by Information Integration Initiative). In this project, a new data will be added to the materials database operated by NIMS, the tools required in the MI research will be developed, and a data-platform for materials research will be constructed. By using this platform, the effectiveness of the MI approach will be demonstrated in the development of magnetic materials including spintronics materials. Considering that many practical magnetic materials are multi-component compounds, we have to develop a more advanced searching system. A recent development in AI technology will play an important role in that way.

The MI approach will significantly reduce the time to discover, develop and manufacture new magnetic materials; in which a key issue is open and easy accessible database of the materials. The materials database contains crystal structure, composition rate, etc., but it is not enough. That is, in addition to materials data of the ideal state such as a perfect crystal, information of manufacturing processes in the actual material should be gathered in the materials database. However, production or manufacturing process usually is concealed as know-how. In order to promote the MI study, a policy regarding the handling of materials data including the know-how has become extremely important.