

Application of artificial neural networks to modeling of the PRAM materials

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Many researches are going on in the field of high-throughput experimentation (HTE) techniques in the framework of combinatorial catalysis. Some devices that make such HTE possible are already developed. However, the speedy progress of those experimental tools requires more diverse data mining methods. In this study, artificial neural networks are applied to the design of the phase change RAM. The basic phase change material is a Ge-Sb-Te alloy. The objective of this study is to find the optimal composition of the Ge-Sb-Te phase change material in relationships between the input and output data obtained from experimentation. The neural network is used to model the relationship between the material compositions and the material performances. The proposed model is then used to predict the maximum performance of multi-component material, thereby accelerating the discovery of the optimum composition of the PRAM materials.

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