



"Soft-Matter Seminar"

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"Neural networks for optimization of magnetic recording media"

Abstract

A global optimization algorithm is presented in the framework of neural networks. After gathering the specific data, the neural network is trained with this data to imitate the behavior of the original function. This trained neural network is optimized by simulated annealing inspired by the annealing methods in metallurgy.

The program was used and adjusted to optimize the attributes of an exchange spring media layer for magnetic recording. The anisotropy was varied along the layer to get the highest possible thermal stability maintaining the coercive fields at a stable value. In other words, a global maximum of a micromagnetic simulation with anisotropy constant as inputs and one energy barrier as output was searched on the condition of a stable coercive field.

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15:00 Uhr

Raum PH 3344

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