



Vortrag im Gästeprogramm des GRK 2075

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Analytical and numerical solutions to water-uptake and drying of different layers of materials with different diffusivities and uptake capacities

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The time-dependent uptake of water and the subsequent drying of a multi-layer material is of significant interest for many civil engineering applications. We derive a simple diffusion model for these processes and discuss how diffusion in multi-layer systems can be simulated using lattice Boltzmann simulations. We evaluate the accuracy of these methods by comparing them to analytical solutions for simple situations. We then show how these methods can be applied to make predictions for long-time water content of materials under cyclic wetting and drying conditions.

Kontakt

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