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# Segmentation, statistical analysis, and modelling of the wall system in ceramic foams

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## Abstract

Closed walls in otherwise open foam structures may have a great impact on macroscopic properties of the materials. In this paper, we present two algorithms for the segmentation of such closed walls from micro computed tomography images of the foam structure. The techniques are compared on simulated data and applied to tomographic images of ceramic filters. This allows for a detailed statistical analysis of the normal directions and sizes of the walls. Finally, we explain how the information derived from the segmented wall system can be included in a stochastic microstructure model for the foam.

## Keywords

image analysis, micro computed tomography, microstructure characterization, random tessellation, stochastic modelling

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