

## Scaling laws for multi-well nucleation problems

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In this talk, we study scaling laws for nucleation problems which are motivated by models for shape-memory alloys. More precisely, we discuss optimal energy scaling of inclusions of a phase with several variants (martensite) inside a parent phase (austenite), for various model problems in two and three dimensions. The energy term is given by a singularly-perturbed multi-well elastic energy (without gauge invariances). We provide scaling results in the volume and the singular perturbation parameter for settings in which the surrounding parent phase is in the first-, the second- and the third-order lamination-convex hull of the wells of the "martensite phase". Furthermore, we provide a corresponding result for the setting of an infinite-order laminate which arises in the context of the Tartar square.