New Counterexamples to the Cell Formula in Nonconvex Homogenization

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ABSTRACT: In this article we show that for the homogenization of multiple integrals, the quasiconvexification of the cell formula is different from the asymptotic formula in general. To this aim, we construct three examples in three different settings: the homogenization of a discrete model, the homogenization of a composite material and the homogenization of a homogeneous material on a perforated domain.