1127-35-47 **Jianliang Qian**, **Hung Vinh Tran*** (`hung@math.wisc.edu`) and **Yifeng Yu**. *Min-max formulas and other properties of certain classes of nonconvex effective Hamiltonians.*

We present the first attempt to systematically study properties of the effective Hamiltonian arising in the periodic homogenization of some coercive but nonconvex Hamilton-Jacobi equations. Firstly, we introduce a new and robust decomposition method to obtain min-max formulas for a class of nonconvex effective Hamiltonians. Secondly, we analytically and numerically investigate other related interesting phenomena, such as "quasi-convexification" and breakdown of symmetry. Some conjectures and problems are also proposed. (Received January 12, 2017)