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Songting Luo* (luos@iastate.edu). *Numerical approximation for effective Hamiltonians for homogenization of a class of Hamilton-Jacobi equations.*

We propose a new formulation to compute effective Hamiltonians for homogenization of a class of Hamilton-Jacobi equations. Our formulation utilizes an observation made by Barron-Jensen about viscosity supersolutions of Hamilton-Jacobi equations. The key idea is to link the effective Hamiltonian to a suitable effective equation. The main advantage of our formulation is that only one auxiliary equation needs to be solved in order to compute the effective Hamiltonian $\bar{H}(p)$ for all p . Error estimates and stability are proved and numerical examples are presented to demonstrate the performance. (joint with Yifeng Yu and Hongkai Zhao) (Received August 08, 2013)