

1112-35-343

Nestor Guillen and **Russell Schwab*** (rschwab@math.msu.edu), Department of Mathematics, 619 Red Cedar Rd., East Lansing, MI 48824. *Neumann Homogenization Via Integro-Differential Methods*. Preliminary report.

We introduce a nonlinear Dirichlet-to-Neumann mapping to investigate the homogenization of fully nonlinear equations with oscillatory Neumann data. This allows to recast the original second order problem with oscillations at the boundary into a global interior homogenization problem, but this time with an integro-differential equation on the boundary of the original domain. In the case of periodic coefficients in a half-space domain with an irrational normal vector, the problem becomes and almost periodic integro-differential homogenization on the boundary. This is joint work with Nestor Guillen. (Received August 08, 2015)