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**Nestor Guillen** and **Russell W. Schwab\*** ([rschwab@math.msu.edu](mailto:rschwab@math.msu.edu)). *Neumann Homogenization via Integro-Differential Operators.*

We use a recent result about the representation of the Dirichlet-to-Neumann operator for fully nonlinear equations as an integro-differential operator on the boundary of the domain to guide the analysis of the homogenization problem with oscillatory Neumann data. This allows us to attack the homogenization problem as a nonlocal homogenization on the boundary, which is amenable to methods already established for integro-differential equations. We will present the case of a infinite strip domain with almost periodic Neumann data. The emphasis will be on the method of converting the Neumann analysis into an auxiliary nonlocal problem which lives only on the boundary. This is joint work with Nestor Guillen. (Received January 19, 2015)