1108-47-59 **Darren C. Ong*** (darrenong@math.ou.edu), Mathematics Department, University of Oklahoma, Norman, OK 73019-3103. *Decaying oscillatory perturbations of periodic Schrödinger operators.*

We consider decaying oscillatory perturbations of periodic Schrödinger operators on the half line. More precisely, the perturbations we study satisfy a generalized bounded variation condition at infinity and an L^p decay condition. We show that the absolutely continuous spectrum is preserved, and give bounds on the Hausdorff dimension of the singular part of the resulting perturbed measure. Under additional assumptions, we instead show that the singular part embedded in the essential spectrum is contained in an explicit countable set. Finally, we demonstrate that this explicit countable set is optimal. That is, for every point in this set there is an open and dense class of periodic Schrödinger operators for which an appropriate perturbation will result in the spectrum having an embedded eigenvalue at that point. (Received December 17, 2014)