1108-47-222 **Svetlana Jitomirskaya** (szhitomi@math.uci.edu), Department of Mathematics, University of California, Irvine, Irvine, CA 92697, and **Ilya Kachkovskiy*** (ikachkov@uci.edu), 340 Rowland Hall, Department of Mathematics, University of California, Irvine, Irvine, CA 92697. *Anderson localization for one-dimensional ergodic Schrodinger operators with piecewise monotonic sampling functions.* Preliminary report.

We consider the one-dimensional ergodic operator family

$$(H_{\alpha,\lambda}(x)\Psi)_m = \Psi_{m+1} + \Psi_{m-1} + \lambda v(x+\alpha m)\Psi_m, \quad m \in \mathbb{Z}, \tag{1}$$

in $l^2(\mathbb{Z})$. Such operators are well studied for analytic v where a metal-insulator transition (from absolutely continuous to pure point spectra) occurs for almost every alpha.

We are mainly interested in the case $v(x) = \{x\}$ but the results remain true under a general bi-Lipshitz condition on v. For every λ, for almost every α and almost every x, we show that the spectrum of $H_{\alpha,\lambda}(x)$ is pure point. This model is the first example of pure point spectrum at small coupling for bounded quasiperiodic-type operators, or more generally for ergodic operators with underlying systems of low disorder.

We also show continuity of the Lyapunov exponent in energy for all λ, and uniform positivity for (nonperturbatively) large λ. Finally, in the regime of uniformly positive Lyapunov exponent we establish uniform Anderson localization, thus providing the first natural example of an operator with this property. (Received January 14, 2015)