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Intermittent polaron dynamics: Born-Oppenheimer out of equilibrium DIMA MOZYRSKY, MATTHEW HASTINGS, IVAR MARTIN, Los Alamos National Laboratory — We consider the non-equilibrium dynamics of a molecular level interacting with local phonon modes in the case of a strong polaronic shift which prevents a perturbative treatment of the problem. Instead, we find that in an adiabatic regime when the electronic states react faster than the phonon modes it is possible to provide a fully non-perturbative treatment of the phonon dynamics including random noise and dissipation. The result shows intermittent switching between bistable states of the oscillator with an effective random telegraph noise.

Dima Mozyrsky
Los Alamos National Laboratory

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