1162-35-129 **Cecilia Mondaini*** (cf823@drexel.edu) and **Nathan Glatt-Holtz**. *Mixing for Hamiltonian Monte Carlo in infinite dimensions.*

The analysis of convergence/mixing rates for testing sampling efficiency in Markov Chain Monte Carlo (MCMC) algorithms, a fundamental question for establishing their range of applicability, has gained increased attention recently. Of particular interest are MCMC methods that are designed to be well-defined in infinite dimensions, a property that allows them to overcome the curse of dimensionality when applied to corresponding finite-dimensional approximations. We analyze such question for an infinite-dimensional version of the Hamiltonian/Hybrid Monte Carlo algorithm, for which mixing rates had been an open problem until being very recently addressed via an exact coupling approach. Our proof uses the weak Harris theorem together with a generalized coupling argument, providing a flexible methodology to establish mixing rates for other MCMC algorithms. Furthermore, as an application of our general result, we show that all required assumptions can be verified in the context of a Bayesian inversion approach to advection-diffusion type PDEs. This is a joint work with Nathan Glatt-Holtz (Tulane U). (Received August 29, 2020)