



Contribution ID: 32

Type: 3rd week (Nishinomiya-Yukawa symposium)

## Application of the Worldvolume HMC method to lattice field theories

*Tuesday, October 29, 2024 5:30 PM (30 minutes)*

The Worldvolume Hybrid Monte Carlo (WV-HMC) method [arXiv:2012.08468] is a reliable and versatile algorithm for solving the sign problem. This method eliminates the ergodicity problem inherent in methods based on Lefschetz thimbles at low cost. In this talk, I will report recent results on the application of the WV-HMC method to lattice field theories. The discussion will focus on the Hubbard model, which is one of the simplest dynamical fermion systems that have the sign problem, and on pure Yang-Mills theories with topological terms.

**Primary author:** FUKUMA, Masafumi (Kyoto University)

**Presenter:** FUKUMA, Masafumi (Kyoto University)

**Session Classification:** Nishinomiya-Yukawa workshop