

Lattice 2024



Contribution ID: 323

Type: **Talk**

## Unfreezing topology with nested sampling

*Friday, 2 August 2024 11:35 (20 minutes)*

We consider nested sampling as a generic integration technique over the space of lattice configurations and discuss its application to compute the density of states and the free energy. We show the benefits of this alternative sampling method for systems which suffer from ergodicity problems due to non-efficient tunneling, e.g. topological freezing. As a proof of principle, we apply nested sampling in the 2D  $U(1)$  gauge theory.

**Primary authors:** KANWAR, Gurtej (University of Bern); ROMITI, Simone (University of Bern); WENGER, Urs (University of Bern)

**Presenter:** WENGER, Urs (University of Bern)

**Session Classification:** Algorithms and artificial intelligence

**Track Classification:** Algorithms and Artificial Intelligence