

## **Daniela Cadamuro: The massive modular Hamiltonian in the case of fermions**

*Saturday, May 9, 2026 12:25 PM (1 hour)*

The Tomita-Takesaki modular operator for local algebras plays an important role in quantum field theory, and more recently in the study of relative entropy. However, the explicit expression of this operator, except for the case of wedges, is difficult to describe mathematically. We have obtained numerical results for the form of the modular Hamiltonian for free massive Majorana fermions in 1+1 dimensional Minkowski space in the cases of a single and two double cones, which shows how it differs from the wedge case, in particular regarding the dependence of the modular Hamiltonian on the mass of the field.