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Omori - Symmetry Spans and Enforced Gaplessness - 2

Thursday, 12 March 2026 12:00 (1 hour)

Anomaly matching for continuous symmetries has been the primary tool for establishing symmetry-enforced gaplessness. In this talk, I introduce a new mechanism based on symmetry spans: configurations in which a symmetry E is simultaneously embedded into two larger symmetries C and D. When the sets of gapped phases compatible with each embedding have no overlap, gaplessness is enforced.

In the first introductory part, I explain the classification of symmetric gapped phases as module categories and the restriction of symmetries as pullbacks of module categories. In the second part, I present the span criterion and explicit examples in 1+1d CFTs and lattice spin chains. Notably, this mechanism operates with discrete symmetries and continuous symmetries without anomalies, both of which admit well-understood lattice realizations. Based on joint work with Takamasa Ando [arXiv:2602.11696].