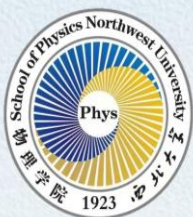# Academic Presentations in Physics
物理学系列学术报告

报告题目：（一）**Fermionic Generalized Symmetry Behind Supersymmetric ADE Solitons**

报 告 人：陈晋副教授，厦门大学

报告时间：**2025年12月5日（星期五）上午 10:00**

报告地点：长安校区物理楼 **856**

报告摘要：

We initiate a systematic study of 2D gapped fermionic systems. When the system admits generalized symmetries that are spontaneously broken, we introduce an algebraic structure, dubbed the "superstrip algebra", to characterize the vacuum structure, particle/soliton degeneracies, and their quantum numbers in the far infra-red. As a demonstration, we apply this framework to the N=2 minimal models with their least relevant deformation. We show that this specific deformation alone preserves a non-invertible superfusion category, a fermionic variant of $SU(2)_k$ known to underlie the ADE classification of critical theories. Its superstrip algebra then accounts for the origin of the resulting ADE-type soliton spectrum and their fractional fermion number. The talk is based on a recent work 2511.22129, collaborated with Zhihao Duan, Qiang Jia and Sungjay Lee.

报告人简介：

陈晋，厦门大学物理科学与技术学院副教授，2016年毕业于明尼苏达大学双城分校，2016-2022年在中科院理论物理所与清华大学丘成桐数学中心从事博士后研究工作。研究方向主要集中在量子场论与弦理论中的非微扰物理方面，近年的研究兴趣在于各维度共形场论、超对称规范场论与拓扑场论中的非局域缺陷等问题。

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