Contribution ID: **327** Type: **not specified**

Kernel Bundles with Real and Symplectic Structure

Tuesday 8 July 2025 14:06 (17 minutes)

The monad bundle construction is a useful tool to build a large class of holomorphic, polystable vector bundles for use in heterotic string compactifications. While it is well-known how to construct monad bundles with SU(n) structure, constructing monad bundles with reduced structure groups remains relatively unexplored. In this talk, we will introduce new techniques to construct kernel bundles with SO(n) and Sp(n) structure groups, and provide examples of how this can be used to realize Higgsing transitions in the heterotic setting. We will also comment on how this approach could be extended to construct vector bundles with exceptional structure groups.

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Session Classification: Parallel Session 2