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Comprehensive investigation of statistics of gauge groups of weakly coupled free fermionic heterotic strings MATTHEW ROBINSON, GERALD CLEAVER, Baylor University — We systematically and comprehensively study the statistics of the spectrum of gauge groups of the weakly coupled free fermionic heterotic region of the string landscape. Specifically, we are seeking to generate all possible gauge group sectors for consistent models containing free fermions of any order boundary conditions (beginning with order-2) and study the statistics of the gauge groups contained therein. For example, the initial order-2 investigation will yield the entire gamut of possible stringy ways of breaking SO(44) to SO(2n) $\otimes$ ... $\otimes$ SO(2m) tensor groups. Gauge group sectors with higher order fermions will produce generic breakings of SO(44) to tensor products containing SO(2n), SU(m), and $E_{6,7,8}$ factors.

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