The universal geometry of heterotic vacua

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Abstract:

A heterotic vacuum of string theory corresponds to a threefold X with c1 = 0, together with a gauge field A, satisfying the Hermitian Yang-Mill's equations, and also compatible B and H fields that satisfy the anomaly cancellation conditions. Such a configuration is fibred over a moduli space. This fibration is the universal bundle of the title. Our aim is to describe the geometry of the moduli space in a way that generalises the special geometry of the moduli spaces of Calabi-Yau threefolds. This reports on joint work with Xenia de la Ossa and Jock McOrist.