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Heterotic Strings on Mirror Half-Flat Manifolds TIBRA ALI, GERALD CLEAVER, Baylor University — In this talk we report on progress made in the study of $E_8 \times E_8$ heterotic string theory on mirror half-flat manifolds. We are motivated to study this system because mirror half-flat manifolds offer a way to fix some of the moduli of heterotic string theory on Calabi-Yau manifolds. We argue that the analogue of standard embedding in the half-flat case is to embed the natural torsionful connection into the gauge connection. The surviving subgroup is still $E_6 \times E_8$ as in Calabi-Yau compactification. We show this by thinking of the heterotic string on a half-flat manifold as a "reduction" of $R^{1,2} \times Z_7$, where Z_7 is non-compact G_2 holonomy cylinder foliated by compact mirror half-flat leaves. We then report progress on working out the effective action of heterotic string theory on these manifolds.

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