1057-14-256   **Burt A Ovrut*** (`ovrut@elcapitan.hep.upenn.edu`), Department of Physics, David Rittenhouse Laboratory, Philadelphia, PA 19104. *The Edge of Supersymmetry: Slope-Stability Walls in Heterotic String Theory.*

We discuss the the slope-stability of holomorphic vector bundles over Calabi-Yau threefolds. It is shown that if the Kahler cone has dimension greater than one, it is generically divided into regions where the bundle is stable, unstable and, on the "stability wall" between them, polystable. This wall corresponds physically to the boundary between unbroken and broken $N = 1$ supersymmetry. In the context of four-dimensional field theory, we provide a complete description of the spontaneous breaking of supersymmetry by the gauge connection near the stability wall, as well as a physical picture for the mathematical notion of bundle stability. (Received January 24, 2010)