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Chiral Supergravity in Three Dimensions SEAN DOWNES, MELANIE BECKER, ERGIN SEZGIN, Texas A&M University — Topologically massive gravity in three dimensions consists of Einstein gravity with a negative cosmological constant $\Lambda = -\frac{1}{\ell^2}$ and a gravitational Chern-Simons term with coupling $\frac{1}{\mu}$ It was recently argued that a consistent chiral theory emerges at the critical value $\mu\ell = 1$. This theory can be consistently extended to chiral supergravity in three dimensions. Linearized gravitino excitations are derived in analogy with the graviton solutions, replete with chiral behavior at the critial point. Linearized energy is analyzed in light of vacuum stability. So-called "logarithmic modes" are also discussed.

> Sean Downes Texas A&M University

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