

LABORATORY FOR ELEMENTARY-PARTICLE PHYSICS (LEPP) Theory Seminar



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## Twin Two Higgs Doublet Models: Explanation of Twin Z2 Breaking and Dark Matter Candidate

The twin Higgs scenario introduces a twin Z2 symmetry to protect the Higgs mass against quadratical divergence. This Z2 symmetry should be broken at electroweak scale, but its origin is still unknown. I will focus on the mirror twin two Higgs doublet models (twin 2HDMs) and ultilize this framework to explain origin of Z2 symmetry breaking via spontaneous and radiative Z2 breaking mechanisms. This twin 2HDM setup could also be extended to the left-right twin Higgs without introducing the soft mass term. In a special twin 2HDM setup, I also discuss a new dark matter candidate under a new T-parity.

## Wednesday, Jan 31, 2018 2:00pm 401 Physical Sciences Building

LEPP, the Cornell University Laboratory for Elementary-Particle Physics, and CHESS resources have merged and a new lab, (CLASSE), has formed. LEPP's primary source of support is the National Science Foundation. Visit us at www.lepp.cornell.edu