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## Cosmological Phase Transitions and their Properties in the NMSSM

*Monday, 5 May 2014 16:30 (15 minutes)*

In this talk, I will discuss cosmological phase transitions in the Next-to-Minimal Supersymmetric Standard Model (NMSSM) in light of the Higgs discovery. I will focus on regions of the NMSSM with a viable neutralino dark matter candidate,  $> 1$  TeV stops, and a Higgs sector compatible with current LHC results. I will show that the phase structure in the viable regions of parameter space can have a rich phenomenology, exhibiting one- or two-step strongly first order phase transitions in the singlet and/or  $SU(2)$  directions. Several parameters relevant for calculating the baryon asymmetry in the context of electroweak baryogenesis are computed for various benchmark points. Our study suggests that successful electroweak baryogenesis may indeed occur in regions of the NMSSM compatible with the Higgs discovery.

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