Contribution ID: **175** Type: **not specified**

Gravitational Waves in the Supersymmetric Extensions of the SM

Wednesday 9 September 2015 12:10 (20 minutes)

In many extensions of the Standard Model of particle physics (SM) the LHC experimental data impose a stringent bound on the strength of the electroweak phase transition and, in turn, on the stochastic gravitational waves background that this transition can produce. In this talk we consider a simple supersymmetric extension of the SM and we identify a parameter region where the electroweak phase transition is close to metastability. We discuss the collider phenomenology and gravitational wave signals of this region. It results that in this model a sizeable stochastic gravitational wave background is possible without violating the present LHC constraints. The prospective detection of such a gravitational wave signal is presented.

Presenter: NARDINI, Germano (DESY, Germany)

Session Classification: Inflation and phase transitions