



Contribution ID: 139

Type: **Short plenary talk (PhD students only)**

## Forecast for the future detection of gravitational waves coming from supercooled phase transition

*Friday, 21 February 2025 16:42 (5 minutes)*

Detecting gravitational waves (GW) has given us new possibilities to probe the Universe. In this talk, I will focus on the prospects of GW detection coming from cosmological supercooled phase transition (PT) with the future generation of detectors, i.e. LISA/ET. Observation of such an event will give us information about the physics of the early Universe.

In the standard model (SM), there is no cosmological PT, that could produce GW. But many extensions of SM predict that PT might have happened. So determining the correct model might be a non-trivial task after such a detection.

In this talk specifically, I will focus on the possibilities of reconstruction of the thermodynamic parameters and scalar field decay rate, which in particular might help to determine the correct model of the supercooled PT.

**Primary authors:** GONSTAL, Adam (University of Warsaw); ŚWIEŻEWSKA, Bogumiła (Uniwersytet Warszawski); LEWICKI, Marek (University of Warsaw)

**Presenter:** GONSTAL, Adam (University of Warsaw)

**Session Classification:** PhD short talks

**Track Classification:** Cosmology & Fundamental Physics