



Contribution ID: 115

Type: **Parallel talks**

Relativistic expansion of bubbles and EW Baryogenesis

Tuesday 18 July 2023 18:40 (20 minutes)

After a brief introduction to phase transitions and explain why they are worth studying, I will examine those in the minimal extension of the SM using a real singlet scalar field. The uniqueness of our study lies in the identification and detailed analysis of a parameter space region where a first-order phase transition with relativistic expanding bubbles can occur. This particular region is intriguing because it may give rise to newly discussed mechanisms for baryogenesis and Dark Matter production. My main focus will be on an EW baryogenesis model that we have investigated, as well as the potential for its discovery in current and future experiments.

Primary authors: AZATOV, Aleksandr (INFN - National Institute for Nuclear Physics); BARNI, Giulio (SISSA - Scuola Internazionale Superiore di Studi Avanzati); VANVLASSELAER, Miguel (Vu); CHAKRABORTY, Sabyasachi (Indian Association for the Cultivation of Science); Y I N, W E N

Presenter: BARNI, Giulio (SISSA - Scuola Internazionale Superiore di Studi Avanzati)

Session Classification: Particle cosmology: Theory and Experiment

Track Classification: Particle cosmology: Theory and Experiment