



Contribution ID: 96

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

Black holes and gravitational waves from slow phase transitions

Friday, 21 February 2025 16:30 (5 minutes)

Slow first-order phase transitions generate large inhomogeneities that can lead to the formation of primordial black holes (PBHs). We show that the gravitational wave (GW) spectrum then consists of a primary component sourced by bubble collisions and a secondary one induced by large perturbations. The latter gives the dominant peak if $\beta/H_0 < 12$, impacting, in particular, the interpretation of the recent PTA data. The GW signal associated with a particular PBH population is stronger than in typical scenarios because of a negative non-Gaussianity of the perturbations and it has a distinguishable shape with two peaks.

Primary authors: Dr LEWICKI, Marek (Uniwersytet Warszawski); TOCZEK, Piotr (Uniwersytet Warszawski); Dr VASKONEN, Ville (NICPB, Tallin)

Presenter: TOCZEK, Piotr (Uniwersytet Warszawski)

Session Classification: PhD short talks

Track Classification: Gravitational Waves