



# “First order phase transitions in the early universe and cosmological consequences”

by Miguel Vanvlasselaer (Brussels U., IIHE)

Time and Date: 10:00-12:00, Sep 22<sup>nd</sup>, 2023

Place: Room 743, Science Complex B H03 (hybrid)

Registration: "[https://us02web.zoom.us/meeting/register/tZ0lc-CqpzwtGtA\\_oCwUfyFIEP1-gheYc7Hk](https://us02web.zoom.us/meeting/register/tZ0lc-CqpzwtGtA_oCwUfyFIEP1-gheYc7Hk)”

We know very little about the first few seconds of the universe, beyond the very successful Big Bang nucleosynthesis. In those first instants, First Order phase transitions in the early plasma could have taken place and reshape the content of the plasma and spacetime. In this talk, we will explore the different consequences of such a strong first order phase transition. We will see that it can lead to particle production, possibly Dark Matter, to baryogenesis and, perhaps more importantly, to the generation of observable stochastic background of gravitational waves.

Contact : Toru Kojo (toru.kojo.b1 [at] tohoku.ac.jp)