Contribution ID: **8** Type: **not specified**

Domain walls beyond Z2

Sunday, 21 December 2025 09:45 (30 minutes)

Domain walls (DWs) are topological defects arising from spontaneous breaking of discrete symmetries. The DW property is determined by both the symmetry and potential of the new Higgs which triggers the symmetry breaking. While most phenomenological studies on GWs from DWs focus on those from Z2 breaking, I will extend to those beyond Z2. The latter are widely predicted in, e.g., flavour symmetries in quark or lepton sectors, remnant discrete symmetries from the breaking of Peccei-Quinn symmetry, etc. In this talk, after a brief review of Z2 DW, I will discuss the properties of DWs from general ZN breaking with N an integer, referring to Abelian DWs. Then, I will move to non-Abelian DWs, namely, DWs arising from non-Abelian discrete symmetry breaking. I will focus on the widely studied octahedral symmetry S4 and tetrahedral symmetry A4. I will also discuss on gravitational waves related to these DWs, in particular their differences from the that from Z2 DWs

Primary author: ZHOU, Ye-Ling (HIAS-UCAS)

Presenter: ZHOU, Ye-Ling (HIAS-UCAS)

Session Classification: Special Session of Higgs Cosmology I