

Domain wall network from first-order phase transitions and gravitational waves

In this work, we studied the dynamics of the domain walls formed during the first-order phase transition by lattice simulation, as well as the gravitational waves. The numerical results indicate that the domain walls created during the first-order phase transition evolve into cosmic domain wall network in the case of without the biased term, while the domain walls decay directly and do not form cosmic domain wall network when the biased term is taken into account. We find that the gravitational waves generated by the dynamical evolution of the domain wall are in the same frequency band as those generated by the first-order phase transition, and the gravitational waves generated by the domain wall are dominant.

Primary authors: Mr WEI, dongdong (SYSU); Prof. JIANG, yun (SYSU)

Presenter: Mr WEI, dongdong (SYSU)