

DOMAIN WALLS AND GRAVITATIONAL WAVES

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Abstract

I will review the fascinating physics of cosmological domain walls. These classical configurations separate different vacua in field theories with spontaneous violation of discrete symmetries. Such theories often appear in high energy theories beyond the standard model of particle physics. I will discuss potential observational problems associated with cosmological domain walls and different ways to avoid these problems. Moreover, I will show that domain walls are a very promising source of gravitational waves. In particular, the network of the domain walls can be the source of the signal recently observed by NANOGrav collaboration. Furthermore, for different values of parameters, one may detect their gravitational waves in currently planned observational missions like Einstein Telescope, TianQin, Taiji, and LISA. This talk is based on [1–7].

References

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