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Signals of primordial gravitational waves produced in a strong first order electroweak phase transition

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Content :

The observed matter-antimatter asymmetry of the Universe can be generated dynamically through the mechanism of electroweak baryogenesis (EWBG). This requires a strong first order electroweak phase transition (SFOEWPT). While in the Standard Model with a 125 GeV Higgs boson this cannot be realized it is possible in extended Higgs sectors like e.g. the 2-Higgs-Doublet Model. The SFOEWPT leads to primordial gravitational waves that may be tested in future experiments like LISA. We present the calculation of the signals of the gravitational waves which has been implemented in our existing code BSMPT. After a discussion on how our implementation compares to other existing codes we discuss the phenomenological implications.

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