

Impact of the Global Correlated Magnetic Noise on Phase Transition SGWB Searches

Tuesday, 7 November 2023 17:00 (1 hour)

A stochastic gravitational wave background (SGWB) is a weak and persistent background of gravitational waves (GWs) and can provide valuable insights into the origins and evolution of the universe. To detect the SGWB with ground-based interferometric detectors, cross-correlations between multiple GW detectors are calculated and local noise is canceled; however, global coherent noises, such as the Schumann resonance, remain and affect the observation. We evaluate its effect on phase transition SGWB searches based on the Fisher matrix formalism.

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