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Searching for Gravitational Waves from Axion Detectors

Thursday 29 September 2022 15:00 (15 minutes)

Electromagnetism in curved space time predicts induced magnetic fields arising from gravitational waves (GWs) in the presence of external electric and magnetic fields. Using this fact, it has been suggested to use axion detectors and reinterpret their results to observe high-frequency GWs (above 100 kHz). In this work, we enlarge this novel possibility by considering more general detector geometries inspired by present/future axion experiments such as ADMX-SLIC. Also, to fully appreciate this methodology, we try to find the optimal geometry which maximizes the sensitivity to GWs.

Summary

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