

Detection of gravitational waves with axion haloscopes

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Gravitational waves generate oscillating electromagnetic effects in the vicinity of external electric and magnetic fields. I will discuss this phenomenon with a particular focus on reinterpreting the results of axion haloscopes based on lumped-element detectors, which probe gravitational waves in the 100 kHz-100 MHz range. I will show that the DMRadio program will have the potential to discover not only the QCD axion but also exotic sources of gravitational waves. In the final part of my talk, I will discuss the corresponding detection prospects of primordial-black-hole binaries.

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