

Searching for High-Frequency Gravitational Waves with ABRACADABRA-10cm

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Gravitational wave searches have been mainly focused on the nHz to kHz frequency range, corresponding to known astrophysical objects. We focus our search instead on higher frequencies which may indicate signs of in-spiraling primordial black holes, or other beyond the standard model phenomena. ABRACADABRA-10cm has had great success as a lumped-element axion experiment; using the electromagnetic dynamics of gravitational waves and a simple change of pickup structures, we are able to use the ABRACADABRA detector to search for these high-frequency gravitational waves in the kHz to MHz range. I will present on the design and first data from the ABRACADABRA-10cm high-frequency gravitational wave search.

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