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Searching for primordial black hole populations with resonant cavities

The FINUDA magnet for Light Axion Search (FLASH) is a large resonant cavity haloscope planned to probe new physics as part of the INFN Frascati National Laboratories near Rome (Italy). The frequency range accessible overlaps with the Very High Frequency (VHF) range of the radio wave spectrum and allows for a search in high frequency gravitational waves (HFGW) in the frequency range (100–300) MHz, allowing to scan for the existence of light primordial black holes in the asteroid mass window. I present the setup of the experiment and the sensitivity forecasts for the detection of HFGWs. The considerations for the astrophysical framework that can be probed are drawn. Based on 2309.00351 and ongoing work.

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