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Radiometric broadband searches for light dark matter with BRASS-p

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Broadband Radiometric Axion SearcheS (BRASS) is the haloscope experimental framework that can be employed to search for the axion/ALPs and hidden photons by employing novel experimental approaches and synergies with state-of-the-art broadband techniques developed in radio astronomy.

The prototype, BRASS-p - developed at the University of Hamburg, is a broadband detector that searches for light dark matter signal in the frequency range of 12-18 GHz. This talk will discuss the setup and calibration of BRASS-p, which comprises the conversion panel, parabolic mirror, cryogenic broadband receiver, and digital backend system. We present our signal scan routine of the first science run targeting the hidden photon dark matter within 12-18 GHz, and discuss the preliminary result from the first science run.

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