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High frequency gravitational wave sensing with superconducting microwave cavities

A promising way to probe physics beyond the Standard Model is to search for gravitational wave (GW) signals at high frequencies where known astrophysical sources can not obscure the signal. Similar to the search for dark matter, microwave cavity resonators can be used to detect faint effects from GWs. We will report on the progress of our project to operate such a detector and highlight improvements we are planning in the future. This includes quantum enhancement techniques like vacuum squeezing which will allow future detectors to operate beyond the standard quantum limit.

Secondary track

T01 - Astroparticles, Gravitation and Cosmology

Authors: Mr DOKUYUCU, Can; MARCONATO, Giovanni; MOORTGAT-PICK, Gudrid (DESY and University of Hamburg); PETERS, Krisztian (DESY); Dr WENSKAT, Marc; KROKOTSCH, Tom (Universität Hamburg)

Presenter: MARCONATO, Giovanni

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