

Second Stage of WISPDMMX Measurements

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Weakly interactive slim particles (WISP), including the QCD axion, axion-like particles (ALP), and hidden photon, are considered to be strong candidates for the dark matter carrier particle. The microwave cavity experiment WISPDMMX is the first direct WISP dark matter search experiment probing the particle masses in the 0.8-2.0 micro-eV range. The first stage of WISPDMMX measurements made at nominal resonant frequencies of the cavity constrains the kinetic mixing angle of hidden photons well inside the region of the parameter space where hidden photons can constitute the dark matter. The second and third stages of WISPDMMX are presently being prepared. At these stages, WISPDMMX will employ cavity tuning and a strong magnet to probe up to 80% of the 0.8–2 micro-eV range and to extend the searches also to axions. The results from the first stage of WISPDMMX measurements and the preparations for the successive stages will be described.

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