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Search for hidden-photon Dark Matter with FUNK

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Many extensions of the Standard Model of particle physics predict a parallel sector of at least one new $U(1)$ symmetry, giving rise to hidden photons. If produced non-thermally in the early universe, these hidden photons can be candidate particles for cold Dark Matter. Hidden photons are expected to kinetically mix with regular photons. If hidden photons pass through a conducting surface a tiny electromagnetic signal is produced. Due to the kinematics of the process, these photons are emitted almost perpendicularly to the surface. The corresponding photon frequency is given by the mass of the hidden photons. In this contribution we present results of a search for dark photons in the mass range from 2 to 8 eV using a spherical metallic mirror of 14 m^2 area. We will also discuss future Dark Matter searches in the eV and sub-eV range by application of different detectors for electromagnetic radiation.

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