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Discovery prospects with the DALI Experiment

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We will discuss the discovery potential of the Dark-photons & Axion-Like particles Interferometer (DALI), a new-generation haloscope that has been proposed, primarily, for the purpose of probing for Galactic dark matter in a post-inflationary Universe. Thus, the apparatus will search for axion-like particles in the, poorly explored, 25 to 250 μeV mass range, reaching Dine-Fischler-Srednicki-Zhitnitsky axion sensitivity; with a capacity to detect also paraxions of a kinetic mixing strength to ordinary photons larger than some 10^{-16} . To be sited at the Teide Observatory, in the Canary Islands, an ideal environment protected from terrestrial microwave sources, the project presents some peripheral objectives which will, of course, also be addressed on the basis of simulation results, as well as an overview of the experimental approach.

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