

ABSTRACT ONLY**THE DARK SECTOR WINDOW WITH
EXTREME LASER PULSES**Pablo Pais^{1,2} and Sergei V. Bulanov^{3,4}

Parameter bounds for the dark matter candidates can be obtained not only from astrophysical sources or large particle colliders but also from laser experiments. One of these experiments consists of shining a wall with a laser and trying to convert the photon into a dark matter candidate particle through an external magnetic field coupling, named light shining through the wall (LSW). On the other side of the wall, another magnetic field region would reconvert the weak interacting particle into a photon before passing through a detector. We explore the possibility of implementing LSW to detect dark matter candidates, taking advantage of the power laser pulses achieved at the Extreme Light Infrastructure and the Shanghai Superintense Ultrafast Laser Facility shortly.

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