

9th Beam Telescopes and Test Beams Workshop



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PADME experiment at the Beam Test Facility of Laboratori Nazionali di Frascati

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The experiment PADME is installed at the Beam Test Facility of the INFN Laboratori Nazionali di Frascati and its main goal is to search for a light boson A' associated to a broken $U(1)$ gauge symmetry (usually called dark photon) acting as a neutral portal between the visible and the dark sector.

PADME has collected data in two runs. The first one used a secondary positron beam, but the analysis showed a high beam related background. In order to lower this background, a primary beam was used in run II. In addition, part of the beam line was also modified to have even less background and improve the sensitivity for the dark photon search. The physics processes used to evaluate the background are positron-electron annihilations in two photons and positron Bremsstrahlung.

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