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Dark Photon Searches at Electron Accelerators¹

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The search for an understanding of the elusive Dark Matter is one of the great scientific quests of our age. Recently there has been significant focus on a potential low mass ($<1~{\rm GeV}/c^2$) mediator of a fifth force. The mediator, the so-called dark photon, has been the focus of several dedicated experiments. Recent discrepancies with the standard model such as the muon anomalous magnetic moment, and excesses in the invariant mass distribution of e^+e^- pairs in decay of excited states of $^4{\rm He}$ and $^8{\rm Be}$, further motivate the search for a low mass dark photon. In this talk I will discuss the status of several experiments which are searching for this carrier of the proposed fifth force, with a particular focus on APEX at Jefferson Lab, MAGIX at MESA, and the recently approved DarkLight experiment at ARIEL.

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