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Searching for dark photons at the FPF

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In the search for new physics, the dark photon is one of the most studied targets. It is often invoked as a mediator connecting the SM to a secluded dark sector charged under a novel dark $U(1)_X$ symmetry. However, beyond the minimal secluded dark photon model there is a myriad of anomaly-free U(1) extensions of the SM, which originate from gauging combinations the accidental global flavour symmetries of the SM. In this talk I want to review some of the most prominent examples of these minimal U(1) extensions and discuss their phenomenology, as well as the potential to search for them at the future Forward Physics Facility.

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