

## New Scientific Opportunities with the TRIUMF ARIEL e-linac



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# Illuminating the Dark Photon with DarkLight

*Friday, 27 May 2022 10:30 (30 minutes)*

The search for a dark photon holds considerable interest in the physics community. Such a force carrier would begin to illuminate the dark sector. Many experiments have searched for such a particle, but so far it has proven elusive. In recent years the concept of a low mass dark photon has gained popularity in the physics community. Of particular recent interest is the  $^8\text{Be}$  and  $^4\text{He}$  anomaly, which could be explained by a 17 MeV mass dark photon. The proposed Darklight experiment would search for this potential low mass force carrier at ARIEL in the 10-20 MeV  $e^+e^-$  invariant mass range. This talk will focus on the experimental design and physics case of the Darklight experiment.

## Attendance

## Contact Email

## Scheduling Constraints

**Primary author:** CLINE, Ethan

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