

# Search for the X-17 Particle in Montreal

*Friday, 16 February 2024 20:00 (15 minutes)*

The Particle Physics Group at the Montreal Tandem Accelerator is currently working on setting up an experiment to verify the existence of the so-called X-17 particle. This supposed particle of mass  $17 \text{ MeV}/c^2$  was first claimed to be observed by the ATOMKI experiment in the decays of excited  $^8\text{Be}$  and  $^4\text{He}$  nuclei to their ground states via internal  $e^+ e^-$  pair creation. The anomaly observed in the angular correlations of  $e^+ e^-$  pairs suggests the existence of a potential dark boson. The Montreal experiment aims to independently reproduce this result and is using a multiwire proportional chamber with scintillator bars surrounding it, giving it an acceptance solid angle close to  $4\pi$ . Data acquisition hardware has been tested and is being deployed, we aim to perform beam runs and data acquisition in early 2024 and expect results by summer 2024.

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