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# (I) New evidence for a dark sector? –Search for the X17 resonance

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Nuclear transitions provide a means to probe light, weakly-coupled new physics and portals into the dark sector. Particularly promising are those transitions that can be accessed through excited nuclear states that are resonantly produced, providing a high-statistics laboratory to search for MeV-scale new physics. In this talk the so-called X-17 anomaly will be discussed, which is a 7σ discrepancy reported by the ATOMKI group in the observation of the decays of excited 8Be and 4He nuclei to their ground states via internal e+ - e- pair creation. The anomaly can be explained by the emission of a neutral boson with a mass of about 17 MeV/c2. The ATOMKI results and their interpretations are discussed, as well as follow-up experiments, among which an ongoing project at the Montreal tandem accelerator facility.

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