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# Beta decay correlations with laser-trapped 37K in the LHC era

*Wednesday 31 May 2017 13:30 (30 minutes)*

We have measured the beta asymmetry with respect to the nuclear spin in 37K decay to be -0.5706+-0.0018. Ours is the most accurate beta asymmetry measurement in any nucleus or the neutron, and is in agreement with the Standard Model of particle physics. I will show our constraints on beyond-Standard Model physics complementary to other beta decay measurements. I will also describe our planned improvements to TRIUMF's laser-cooled atom trap for beta decay (TRINAT), including measurement of the asymmetry of the low-energy nuclear recoils. We hope to reach accuracy sufficient to complement pion decay and high-energy experiments, probing coupling strengths of possible new bosons to first-generation particles.

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