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Measuring Planck scale U(1) gauge interactions in Quantised Inertia using IKKT gravity GEORGE SOLI, Retired — A theoretical foundation required to measure the effects of quantum statistics on inertia and gravity is presented. Optical pressure in fiberoptic loops, caused by the reflection of electromagnetic radiation, is used to produce spontaneously emitted Unruh photons in the fiberoptic. The Unruh photons stimulate the emission of superradiant photons in the accelerated reference frame, that are observed as photon pairs produced by fiberoptic heat in the laboratory reference frame. An analogy using tidal friction superradiance is presented. Inertia is defined as an entropic force that is emergent from the IKKT matrix model and caused by "mild" UV/IR mixing. Dark energy density is used to define the source of the quantum statistical fluctuations responsible for inertia and the to-be measured quantum statistical effects. Recent analysis of Unruh photons, measured at CERN and produced by accelerating positrons, averages with the superradiant photons produced in the Bosonic fiberoptic to produce IKKT supersymmetric mixed states.

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