Abstract Submitted
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Current status of the measurement of the anapole moment in francium.[1] ADRIAN PEREZ GALVAN, JQI, University of Maryland, DONG SHENG, YANTING ZHAO, LUIS OROZCO, FRTRAP COLLABORATION[2] — We present the new generation experimental setup of the FrTRAP collaboration to measure the anapole moment in a chain of francium isotopes. The experiment will interface with the ISAC radioactive beam facility at TRIUMF. Our experimental design combines a double chamber currently under test with stable rubidium. The design permits both microwave and optical parity non-conservation measurement techniques. The nuclear anapole moment is a parity violating moment that arises from the nuclear weak interaction and can be probed with an electromagnetic interaction between an electron and the nucleus. Its measurement is a unique probe for neutral weak interactions inside the nucleus. Measurements in a chain of francium isotopes offer the unique opportunity of probing the electroweak interaction as a function of nuclear distribution.

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