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Final design and first use of in-situ measuring apparatus for measurement of permanent magnet resiliency in CEBAF's radiation environment

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In this work we outline the final design and initial measurement lessons for the holders and measuring apparatus of the permanent magnet resiliency experiment which is a part of the FFA@CEBAF proposed upgrade. The experiment will expose permanent magnets to the radiation environment of CEBAF. Due to safety regulations we need to measure the magnets in the tunnel without bringing them out, so we designed a mobile measuring system as well as a series of protocols to allow us to speedily measure these samples even under adverse conditions. We also designed our system to be capable of taking measurements even with component failures.

Footnotes

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