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[US] Measurement of the silicon effective band gap energy with the ATLAS pixel detector

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Silicon sensor leakage currents are often used as a diagnostic tool for monitoring the bulk damage caused by non-ionizing energy loss. One of the key inputs to interpreting leakage current data is the effective band gap energy, which is used to correct for temperature variations in the current. Using dedicated temperature scans in 2017 and 2018, the effective band gap energy is measured for the silicon sensors in the ATLAS pixel detector. This talk will report the results of the measurement and discuss implications for fluence monitoring and predictions.

Primary author: GRUMMER, Aidan (University of New Mexico (US))

Presenter: GRUMMER, Aidan (University of New Mexico (US))

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