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**Absolute x-ray and neutron calibration of CVD-diamond-based time-of-flight detectors for the National Ignition Facility**[1] N. KABADI, H. SIO, H. RINDERKNECHT, A. ZYLSTRA, M. GATU JOHNSON, J. ROJAS-HERRERA, J.A. FRENJE, R.D. PETRASSO, MIT, V. GLEBOV, LLE — The particle-time-of-flight (pTOF) detector at the National Ignition Facility routinely measure proton and neutron nuclear bang-times in inertial confinement fusion (ICF) implosions. The active detector medium in pTOF is a chemical vapor deposition (CVD) diamond biased to a high voltage. This work discusses absolute measurement of CVD diamonds sensitivity to neutrons and x-rays, for different thickness and bias voltage. Although the impulse response of the detector is regularly measured on diagnostic timing shot, absolute sensitivity of the detector's response to neutron and x-ray have not been fully established. X-ray and DT-n sources at the MIT accelerator facility provide a continuous source for testing. CVD diamond detectors are also fielded on OMEGA experiments to measure sensitivity to protons, DD neutrons, and DT neutrons. Implications for absolute neutron yield measurements at the NIF using pTOF detectors will be discussed.

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