

Abstract Submitted
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Diagnostic System for Identifying High Energy Prompt Gamma Rays in a Fusion Device AARON FANCHER, Purdue University, CHARLES GENTILE, Princeton Plasma Physics Laboratory — A diagnostic system is being developed for the capture and identification of high energy prompt gamma ray spectra in a fusion device. Gamma ray spectrometry for a pulsed device enables the observation of many gamma producing phenomena that occur during fusion shots with the potential to observe prompt gamma profiles, reaction rates, or particle interactions to name a few. A preliminary design was created for the National Spherical Torus Experiment, NSTX, consisting of scintillation type detectors placed near the neutral beam injector, NBI, port and linked to a data acquisition system. This diagnostic was used to collect and analyze prompt emission spectra originating from a deuterium plasma during a series of fusion shots. Focus was placed on the monitoring and identification of prompt gamma spectra near the NBI region which previously had been unobserved. Results will be presented.

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