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SXR measurements of Resistive Wall Mode behavior in NSTX LUIS F. DELGADO-APARICIO, K. TRITZ, The Johns Hopkins University, M. FINKENTHAL, D. STUTMAN, The Johns Hopkins University, S.A. SABBAGH, J. BERKERY, Columbia University, S. GERHARDT, R. BELL, B. LEBLANC, J. MANICKAM, J. MENARD, L. ROQUEMORE, Princeton Plasma Physics Laboratory — A multi-energy soft X-ray (ME-SXR) array has been used for the determination of time and space-resolved emissivity profiles during stabilized resistive wall mode (RWM) experiments in NSTX. The main purpose of this study is to distinguish whether the changes on the plasma response (T_e, n_e, n_Z) correspond to the observation of a stabilized RWM or to the effect of the Resonant Field Amplification (RFA). Kinetic measurements of the RFA due to stable RWMs were tested using a single frequency n = 1 traveling waveform in which the peak-to-peak amplitude was changed by an order of magnitude; neon injection was used to increase the signal-tonoise ratio of the ME-SXR diagnostic. The effect of the RFA on the kinetic profiles was observed and correlated with a suite of diagnostics including that of a toroidally displaced SXR array for n = 1 RWM identification. This work was supported by the US DoE grant No. DE-FG02-99ER5452 at JHU and DoE-PPPL Contract No. DE-AC02-09CH11466.

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