

Abstract Submitted
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The WASTED Resolutions: exploration of the spatial and energy limits of the Webcam Alpha Spectrometer TEchnology Demonstrator JOSEPH FRYMAN, ARTHUR PALLONE, Northern Kentucky University — Scientists and engineers build simple, low-cost, webcam-based instruments for use in many disciplines. Analysis of the optical signal received through the three broadband color filters – red, green and blue – form the basis of many of those instruments. The CMOS sensors in webcam pixels also produce signals in response to ionizing radiations – such as alpha particles from a radioactive source. Simple alpha radiography has been demonstrated with an alpha source and a webcam modified to expose the sensors. The performance of the Webcam Alpha Spectrometer TEchnology Demonstrator (WASTED) built from such a modified webcam and a commercially available alpha source mounted to an optics rail is analyzed in terms of the energy upper-half-width-half-maximum and of the spatial modulation transfer function.

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