

Abstract Submitted
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WASTED at work: the Webcam Alpha Spectrometer Experiment Demonstrator ARTHUR PALLONE, NICOLE NEWTON¹, Murray State University — Ion beam analysis (IBA) methods are commonly used to determine the composition or other properties of samples. The scanning of micrometer diameter and smaller ion beams across sample surfaces produces spatial distribution maps of those properties for the samples. Electron microscope providers offer radiation-hardened CMOS camera options to directly image sample areas as a complement to scanning the electron beam. A modified webcam operated in the radiographic mode of transmission ion microscopy (TIM), with alpha particles in place of electrons, has been shown to be an effective low-cost alternative to that camera for TIM. IBA under ambient pressure is still not commonly practiced. Even less common is the use of a radioactive source of ions, such as Po-210, in IBA. The synthesis of these three ideas – the direct imaging by a modified webcam of Po-210 alpha particles that first pass through a sample under ambient pressure – is explored with the Webcam Alpha Spectrometer Experiment Demonstrator (WASTED). A description of the experiment, first results, conclusions and future work will be presented.

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