

Abstract Submitted
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In-air Rutherford Backscattering and Particle Induced X-ray Emission for Biophysics and Material Science Research JAMES BECKER, None — Rutherford Backscattering (RBS) and Particle Induced X-ray Emission (PIXE) are methods of nondestructive analysis of elemental composition. Rebounding particles or emitted x-rays can be “collected” and then analyzed to reveal the number ratio of the elements in a sample. Due to the nondestructive feature of these processes, RBS and PIXE are useful in many diverse fields of study such as archaeology, art, and biology; however, these experiments usually require large, expensive particle accelerators and detectors. Instead, I am attempting to use a radioactive source, photodiodes, and computer software to perform the same methods at a fraction of the cost. I am exploring cost, time, and resolution benefits and losses of my approach versus the traditional accelerator-based approach.

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None

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