



Jordan University of  
Science & Technology

Jordan University of Science and Technology  
Faculty of Engineering  
Nuclear Engineering Department

Graduation Project 2  
(NE 592)

## **Alpha Spark Counter Part II**

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## **ABSTRACT**

This project is an extension to our previous work which was concentrating on the design and construction of an alpha-spark detector. The objective of our current work is to make this detector a successful counting device that can give count rate values which is proportional to the activity of any radioactive source. This project introduces a detailed description of all phases of design, construction, testing and the principle of operation of spark detector. After testing the detector, the challenge was how to build a device that computes each spark results from the interaction between alpha radiation and air molecules. The idea was to use Arduino counting circuit programming code and a light sensor and calculate and record signals from sparks and display measurements on LCD screen. We also review some of the challenges we faced in our work and how we tried to solve them as possible.