



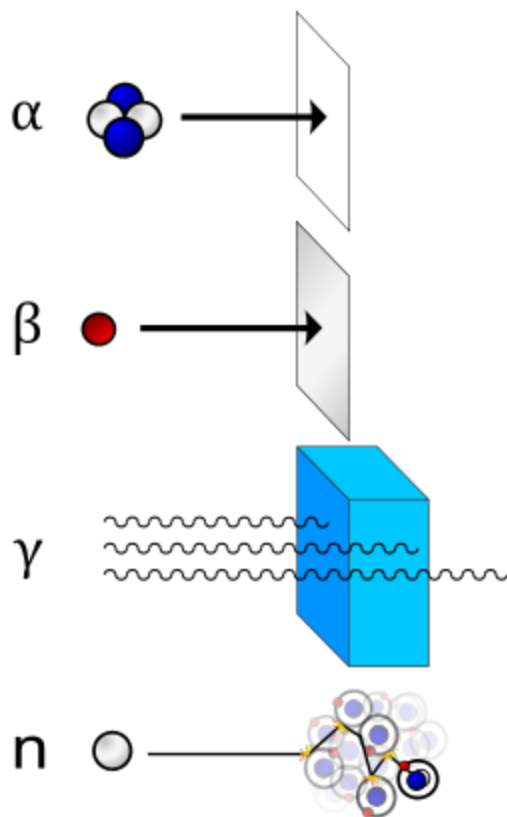
Am I Being Irradiated? , 6/2013

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Problem Definition

- Due to recent nuclear accidents at power reactors around the world, one can wonder if they are being exposed to ionizing radiation.
- The problem is how to detect levels of ionizing radiation (alpha/beta/gamma) without braking your wallet.

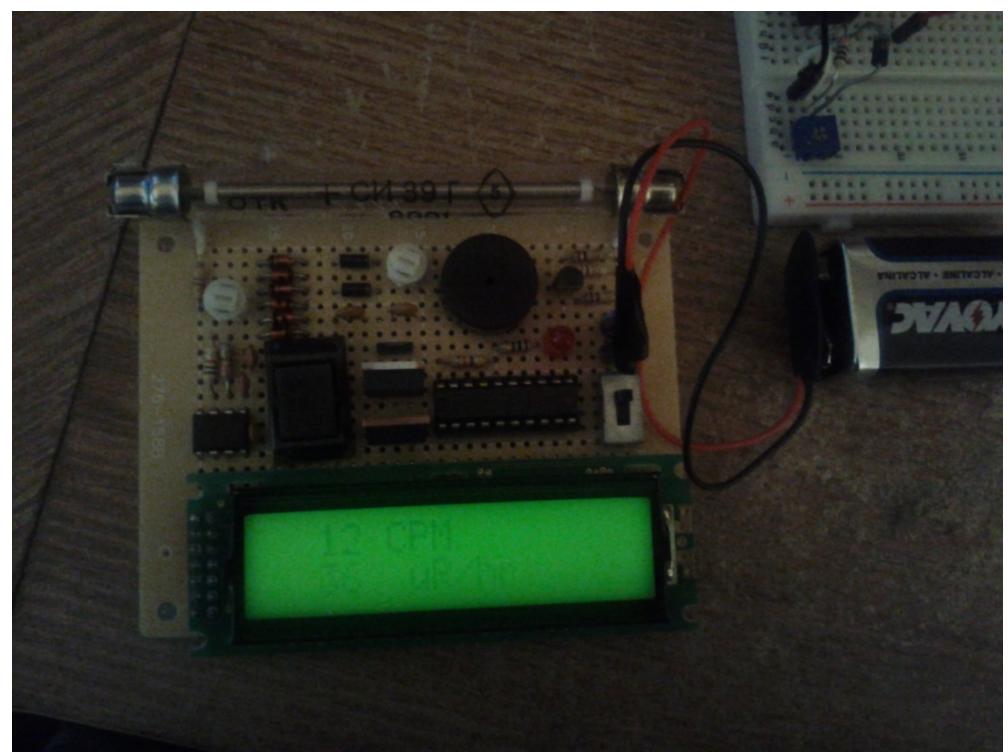


Research/Analysis

- Quartz fiber dosimeter
- Film badge dosimeter
- Thermoluminescent Dosimeter
- Geiger–Müller Counter

Proposed Solution

- Geiger Counter
- The most cost efficient and sensitive solution is the Geiger Counter, even though it required generating 400+ volts.
- The high voltage is applied across the Geiger–Müller tube and the pulses are counted by the MSP430 microcontroller and an LCD module displays the CPM (counts per minute) and dose of radiation absorbed



Potential Applications

- Detect levels of ionizing radiation
- Find out if a nuclear reactor melted down and the government didn't tell you. (aka Pripyat)