

عنوان مقاله:

Alpha particle spectrometry with CMOS webcam and a SBC

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خلاصه مقاله:

We present the development of a system for the detection and energy spectrometry of alpha particle radiation based on the Commercial Off The Shelf (COTS) CMOS image sensor. The data is read, processed and displayed in real-time using a single-board-computer (SBC). We show that by using image processing techniques, a slightly modified webcam can be used to measure α radiation. In contrast to dedicated measurement devices such as Geiger counters, our framework can classify the type of radiation and can differentiate between various kinds of ionizing radiation. The system was tested with standard Ra and Am alpha sources.

کلمات کلیدی:

Webcam, CMOS image sensor, Alpha particle, single-board-computer (SBC), Image processing

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