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# Radiation detectors and their applications in medical imaging

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The evolution of radiation in medicine is one of the major breakthroughs recorded in medical sciences. Advanced techniques in the diagnostic and therapeutic radiation are the reasons for successes in researches, industries and in nuclear medicine. Medical radiation is considered as a field that focuses on human health and the application of advanced radiation techniques to solve health complications. Therefore, there are more emphasis on using novel and advanced approaches to solve medical issues. Moreover, there is now the need to study and understand the major radiation detectors used in disease detection, diagnosis and treatment. In this study, radiation detectors were identified based on their individual impacts in the medical imaging systems. The study focuses on the various advanced radiation detection devices such as X-ray systems, positron emission tomography, single-photon emission computed tomography, and presents a brief survey of the type of radiation detectors including gas-filled detectors, solid-state detectors, and scintillation detectors for medical imaging systems.

**Primary author:** Dr UZUN OZSAHIN, Dilber (University of Sharjah)

**Co-authors:** Dr UZUN, Berna (Carlos III University of Madrid); Dr IDOKO, John Bush (Near East University, Nicosia/TRNC, Turkey); OZSAHIN, Ilker (Near East University, Nicosia/TRNC, Turkey)

**Presenter:** OZSAHIN, Ilker (Near East University, Nicosia/TRNC, Turkey)

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