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Title:	High resolution X-ray detector for Astronomy and Astrophysics
Authors:	Bhardwaj, Akhil (/jspui/browse?type=author&value=Bhardwaj%2C+Akhil)
Keywords:	Astrophysics X-ray Astronomy Radiation and matter Interaction of photons Energy loss in matter
Issue Date:	23-Aug-2018
Publisher:	IISERM
Abstract:	<p>The emission of energy through a medium or space in the form of waves or particles is called radiation. Radiation can be an EM radiation, particle radiation, acoustic radiation or gravitational radiation. Dictated by the energy of the radiated particles, characterizing radiation as either ionizing or non-ionizing. The ionizing radiation which has energy more than 10 eV is able to ionize atoms or molecules and can break chemical bonds. The ionizing part of the Electromagnetic spectrum consists of Gamma rays, X-Rays, and the high energy UV light. The radiation not only carries energy but also carries information about its source, which is useful to probe areas which are otherwise inaccessible. The source and how the source produces radiation decides the modulation of information. So, the study of radiation from a source can give us a significant amount of information about the source like its structure, chemical composition, matter configuration and a lot more. In observational astronomy studies distant objects by making observations in different parts of the EM spectrum, like optical astronomy, radio astronomy, X-Ray astronomy. For making such observations, we need better and more sophisticated eyes. Radiation detectors, help us to do so. Here in this work focuses on new class of detectors for X-Ray astronomy, by dealing with some limitations of the current methods. As X-Rays are incapable of penetrating the earth's atmosphere, we need high altitude or space-based observatories, posing a different challenge. Using cost-effective Gaseous Ionization detectors can be a possible way forward. The use of Micro-pattern gas detectors can be possible way forward [BBB + 03], with the help of computer simulations can help to test these detectors for use in X-ray astronomy and astrophysics.</p>
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