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| Book Name: | [**New Horizons of Science, Technology and Culture**](https://bookstore.bookpi.org/product/new-horizons-of-science-technology-and-culture-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_5651** |
| Title of the Manuscript: | **Hydrogenated Amorphous Silicon Charge-Selective Contact Devices on a Polyimide Flexible Substrate for Dosimetry and Beam Flux Measurements** |
| Type of the Article | **Book Chapter** |

**Special note:**

**A research paper already published in a journal can be published as a Book Chapter in an expanded form with proper copyright approval.**

**Source Article:**

**This chapter is an extended version of the article published by the same author(s) in the following journal.**

**Sensors, 25(4), 1263, 2025.**

**Available:** [**https://doi.org/10.3390/s25041263**](https://doi.org/10.3390/s25041263)

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| PART 1: Comments | | |
|  | Reviewer’s comment **Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | Author’s Feedback *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | **Hydrogenated amorphous silicon (a-Si:H) devices on flexible substrates are being studied for dosimetry and beam flux measurements. Thin, transparent devices deposited on a polyimide sheet are ideal for in vivo dosimetry. The HASPIDE collaboration has developed two configurations: n-i-p type diodes and charge-selective contact devices. The study assesses the linearity of photocurrent response to X-ray and proton versus dose rate at different bias voltages.** |  |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | **Yes** |  |
| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | **I suggest a more assertive abstract. It can be shortened as follows:**  Hydrogenated amorphous silicon (a-Si: H) devices on flexible substrates are being researched for dosimetry and beam flux measurements. In vivo dosimetry requires high transparency and flexibility, making a thin (<10 µm) a-Si: H device on a polyimide sheet a suitable choice. A-Si:H is also known for its radiation hardness. The HASPIDE (Hydrogenated Amorphous Silicon Pixel Detectors) collaboration has developed two configurations: n-i-p type diodes and charge-selective contact devices. While the latter has been explored for solar cells, it is now being tested for X-ray dose measurements. This paper discusses the response of charge-selective contact devices on polyimide to X-rays and protons, assessing the linearity of photocurrent with X-ray dose rate at various bias voltages. The sensitivity to protons has also been evaluated, with testing conducted across fluxes ranging from 8.3 × 10^7 to 2.49 × 10^{10} protons per square centimeter per second (p/(cm² s)). |  |
| **Is the manuscript scientifically, correct? Please write here.** | **Yes. But typos and grammatical mistakes needed to be corrected** |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.**  **-** | **No. Authors are recommended to add these relevant references to improve the quality of the manuscript:**  **[1]Badi, N., Theodore, A.M., Alghamdi, S.A., Alatawi, A.S., Almasoudi, A., Lakhouit, A., Roy, A.S. and Ignatiev, A., 2022. Thermal effect on curved photovoltaic panels: Model validation and application in the Tabuk region. *Plos one*, *17*(11), p.e0275467.**  **[2] Badi, N., Theodore, A.M., Roy, A., Alghamdi, S.A., Alzahrani, A.O.M. and Ignatiev, A., 2022. Preparation and characterization of 3D porous silicon anode material for lithium-ion battery application. *International Journal of Electrochemical Science*, *17*(6), p.22064.**  **[3] Theodore, A. M. (2023). A Comprehensive Analysis of Material Revolution to Evolution in Lithium-ion Battery Technology. Turk. J. Mater. 8(1): 1-13.**  **[4] Azemtsop Manfo, T., 2023. Development and Characterization of a New Solid Polymer Electrolyte for Supercapacitor Device. International Journal of Electrochemistry, 2023(1), p.4825624.** |  |
| Is the language/English quality of the article suitable for scholarly communications? | **Yes. But typos and grammatical mistakes needed to be corrected** |  |
| Optional/General comments |  |  |

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| **PART 2:** | | |
|  | Reviewer’s comment | Author’s comment *(if agreed with the reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Are there ethical issues in this manuscript?** | *(If yes, Kindly please write down the ethical issues here in detail)* |  |

**Reviewer details:**

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