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| **Editor's Review Form** |
| **Journal Name:** Jacobs Journal of Materials Science |
| **Article Title**: **Management Eletro Physical Properties Double-Barrier Structure Based On Silicon Radiation Defect** |

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| **Please indicate the given options in the box, which you feel appropriate for the assigned Paper; Any additional comments may be written in the column given below.**   |  |  | | --- | --- | | **1. ORIGINALITY [ b ]** | **2. SIGNIFICANCE [ b ]** | |  |  | | **a. Never been done before** | **a. Important problem of current interest** | | **b. Re-invention of a known technique** | **b. Part of a problem of current interest** | | **c. Minor variation on a known technique** | **c. An interesting insight** | | **d. Plagiarized content** | **d. Recreational** | |  |  | | **3. DETAILING [ ]** | **4. REFERENCES [ d ]** | | Many essential details are absent. | References represent papers of single author only | | **a. Enough for the referee to repeat the work** | **a. Too many background references of marginal value** | | **b. Appropriate information provided** | **b. Virtually the same references the referee would have cited** | | **c. Unnecessarily detailed** | **c. Out-of-date references: To old work only** | | **d. Unnecessary details can be minimized.** | **d. Shallow references: To new work only** | |  |  | | **5. RECOMMENDATION [ c ]** | | | **a. Accept without Changes** | | | **b. Minor revision** | | | **c. Major revision** | | | **d. What MUST be gone before acceptance?** | |   **1.Abstract does not agree with the manuscript content. For example, abstract says about "mechanism of current transport" whereas any word, which is devoted to current transport mechanism, does not preset in the text. Moreover abstract unsoundly states that "It is shown that the two barrier structures can greatly improve the characteristics of conventional photoelectric detectors". Finally, there are numerous repetitions in my version of manuscript .**  **2. Data, which are concerning influence of annealing temperature on structure properties, are absent. Therefore, conclusion about role of A-centers is not well-grounded. For example, "Isochronous (30 min.) annealing of radiation defects was carried out in the range of temperatures of Ta = 200-450 K." cannot be a reason of A-center annealing (~600 K). At 200 C (470 K) the boron-oxygen centers, which are responsible for LID, are annealed. Besides, at 300-350 C the E-centers are annealed too.**  **3. References represent papers of single author only. Can it really be true that another people do not investigate silicon photodetectors?**  **4. The purpose of Fig.1 is obscure.**  **5. How do equations, which are located in introduction ('"optical properties of films") deal with the experimental results?**  **6. The structure geometry is unclear. How was structure illuminated? How were I-V characteristics measured?**  **7. Data of Fig.2 are unmatched with data of Fig.3.**  **8. None of the figure number in the text does not agree with real number (one exception -- Fig.1). For example, two Fig.7 are present.**  **9. Caption of Fig.7 (second) and X-axis title are badly coordinated with each other. Why are these dependencies non-monotonic?**  **10.The physical reasons of influence on spectral characteristics of bias as well as irradiation and annealing are undiscussed.**  **11. Page 4, 3-rd paragraph from the top: "I showed that primary radiation defects (RD) in p-Si crystals at 300 K are loaded positively." In what way?**  **12. Page 4, 4-th paragraph from the top: "Annealing of diodes leads to decrease in recombination currents."**  **At the same time the Figure 5 caption : "Annealing results are insignificant".**  **13. What are electron transitions responsible for photoluminescence of silicon, which is illustrated by Fig.7 (first)?**  **14. Many abbreviations and symbols are not clarified.**  **15.The axis title on Fig.3 and Fig 6 is not correct.**  **16. What is wavelength used in Fig.4?**  **17. Not good English.** |

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