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| Book Name: | [Chemical and Materials Sciences: Research Findings](https://www.bookpi.org/bookstore/product/chemical-and-materials-sciences-research-findings-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_5679** |
| Title of the Manuscript: | **Optoelectronic and nanomechanical properties of sputtered Cu3N thin films: a versatile material for sustainable energy applications** |
| 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.**

**Journal of Nanomaterials, 13: 2950, 2023.**

**Available:** [**https://www.mdpi.com/2079-4991/13/22/2950**](https://www.mdpi.com/2079-4991/13/22/2950)

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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.** | **1.SEM images reveal flat surfaces with a typical granular morphology. Therefore, morphological and structural characterization indicate that films fabricated at low temperatures are more suitable to be used in applications such as solar absorbers.**  **2. Optical properties display that the Cu₃N thin films deposited at substrate temperatures up to 150°C exhibit optimal energy bands for solar photon absorption. This material is very promising for the field of light detection/absorption, as its photo-response as a function of the energy range shows, as well as the importance of the properties of the initial material in its aging rate.**  **3. On the other hand, the data also indicate the capability of Cu₃N to retain deuterium and desorb it at relatively low temperatures. These results underscore the importance of controlling and optimizing the deposition conditions to achieve Cu₃N thin films with certain tunable properties depending on the application. This could facilitate the advancement of these emerging eco-friendly materials into significant breakthroughs in sustainable energy technologies.** |  |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | **title of the article suitable** |  |
| 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. | **Abstract of the article comprehensive** |  |
| **Is the manuscript scientifically, correct? Please write here.** | **Manuscript scientifically correct** |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.**  **-** | **The references are sufficient and recent** |  |
| Is the language/English quality of the article suitable for scholarly communications? | Very suitable |  |
| Optional/General comments | Non |  |
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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:**

**Mohammed Shareef Mohammed, Samarra University, Iraq**