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| Journal Name: | [**Asian Research Journal of Mathematics**](https://journalarjom.com/index.php/ARJOM) |
| Manuscript Number: | **Ms\_ARJOM\_131972** |
| Title of the Manuscript: | **Second Type of Second Order Slope Rotatable Designs utilizing Balanced Incomplete Block Designs** |
| Type of the Article | **Original Research Article** |

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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.** | **This manuscript presents a significant advancement in response surface methodology by proposing a second type of second order slope rotatable design (SOSRD) utilizing Balanced Incomplete Block Designs (BIBD). The proposed designs, especially for 7, 9, and 13 factors, require fewer design points than those derived from central composite designs (CCD), which can lead to more efficient experimental setups. The research contributes to optimizing experimental designs, which is essential for researchers and practitioners working in statistical modeling and design of experiments.** |  |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | **The title is suitable and accurately reflects the content of the manuscript.** |  |
| **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.** | **The abstract is comprehensive, but you might consider briefly emphasizing the real-world implications of reducing design points, as this strengthens the practical relevance of the research.** |  |
| **Is the manuscript scientifically, correct? Please write here.** | The manuscript is scientifically sound and presents robust mathematical derivations. The conditions for SOSRD are well stated, and the theorem is supported with detailed proof and an example. |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | The references are adequate and recent, with proper citations to foundational and contemporary research. No immediate additions are necessary. |  |
| **Is the language/English quality of the article suitable for scholarly communications?** | The language is suitable for scholarly communication, but a final proofreading pass is recommended to catch minor grammatical inconsistencies (e.g., article usage in a few places). |  |
| **Optional/General** comments | **The inclusion of illustrative examples and the appendix tables strengthens the manuscript. However, adding a discussion section elaborating on potential limitations or future extensions of the method could enhance the manuscript's impact.** |  |

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| **PART 2:** | | |
|  | **Reviewer’s comment** | **Author’s comment** *(if agreed with 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 details)* |  |

**Reviewer details:**

**Ali Kamali, American University of Science, Bahrain**