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| Journal Name: | [**Journal of Engineering Research and Reports**](https://journaljerr.com/index.php/JERR) |
| Manuscript Number: | **Ms\_JERR\_136570** |
| Title of the Manuscript: | **Extension of Graph Signal Processing, Electric Circuits, and Bond Graphs Using Hypergraphs and Superhypergraphs** |
| 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** (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 addresses a highly interdisciplinary and advanced topic by extending classical graphical signal processing (GSP), electrical circuit theory and link graphs to the domain of hypergraphs and superhypergraphs. Such a generalization is timely and relevant, as it may enable more robust modeling of complex systems in engineering, physics and signal processing. The proposed framework could pave the way for new applications in network theory, multiphysics modeling and cyber-physical systems. | Thank you very much for your comments. |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | Yes, the title is suitable and accurately reflects the content of the manuscript. | Thank you very much for your comments. |
| 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 informative but could benefit from a clearer articulation of specific contributions and objectives. The authors should briefly mention the main theoretical advances and the motivation behind the move to hypergraphs and superhypergraphs. | Thank you very much for your comments.  In the abstract, we have included the sentence:  "These extensions enable the representation of hierarchical structures inherent in Graph Signal Processing, Electric Circuits, and Bond Graphs, providing a more expressive modeling framework." |
| Is the manuscript scientifically, correct? Please write here. | The manuscript is mathematically dense but generally scientifically sound. However, some sections would benefit from more rigorous proofs or illustrative examples to clarify the practical implications of the theory. The authors are recommended to strengthen the link between the abstract formalism and its potential applications. | Thank you very much for your comments.  We have added several concrete examples.  Additional notes have been included regarding the abstract formalism and its potential applications. |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | While the references cover a broad range of foundational works, some recent advancements in hypergraph theory and its engineering applications are missing. Suggested additions:   * Chitra, U., & Raphael, B. (2020). Random Walks on Hypergraphs with Edge-Dependent Vertex Weights. NeurIPS. * Feng, Y., You, H., Zhang, Z., Ji, R., & Gao, Y. (2019). Hypergraph Neural Networks. AAAI Conference on Artificial Intelligence. | Thank you very much for your comments. The suggested references have been added, and a necessary revision of the reference list has also been made. |
| Is the language/English quality of the article suitable for scholarly communications? | The language is generally comprehensible, but contains many grammatical problems and awkward formulations. Thorough proofreading by a native or professional academic English editor is recommended. | Thank you very much for your comments. I have made the revisions as much as possible. |
| Optional/General comments | The subject is very ambitious and can have an impact. However, the manuscript would benefit from a better structure and clearer transitions between sections. Visual illustrations or examples would greatly enhance comprehension, especially for readers less familiar with hypergraph-based formulations. | Thank you very much for your comments.  To make the paper as accessible as possible for readers, I have added concrete examples and also included an overview of the paper's structure at the beginning. |

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| **PART 2:** | | |
|  | Reviewer’s comment | **Author’s Feedback** (It is mandatory that authors should write his/her feedback here) |
| **Are there ethical issues in this manuscript?** |  | Thank you very much for your comments. |