

### Review Form 3

Journal Name:	<b>Journal of Materials Science Research and Reviews</b>
Manuscript Number:	<b>Ms_JMSRR_120387</b>
Title of the Manuscript:	<b>Determination of the characteristics of thermoelectrics with high and ultra-high values of the Seebeck coefficient</b>
Type of the Article	.

#### **General guideline for Peer Review process:**

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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#### **Important Policies regarding Peer Review**

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**PART 1: Review Comments**

<b>Compulsory</b> REVISION comments	<b>Reviewer's comment</b>	<b>Author's Feedback</b> (Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p><b>Please write few sentences regarding the importance this manuscript for scientific community. Why do you like (or dislike) this manuscript? Minimum 3-4 sentences may be required for this part.</b></p>	<p>This manuscript is significant for the scientific community as it introduces a new formula for estimating key thermoelectric parameters and provides a comprehensive analysis of the scaled power factor (SPF) and electronic quality factor, enhancing our understanding of high Seebeck coefficient materials. I appreciate its methodological innovations and its potential to guide future research in developing more efficient thermoelectric devices.</p>	
<p><b>Is the title of the article suitable? (If not please suggest an alternative title)</b></p>	<p><b>Yes</b></p>	
<p><b>Is the abstract of the article comprehensive? Do you suggest addition (or deletion) of some points in this section? Please write your suggestions here.</b></p>	<p>The abstract of the article is comprehensive but could benefit from a few adjustments for clarity and emphasis, such as adding a brief introductory sentence explaining the relevance of thermoelectric materials and the Seebeck coefficient, and detailing the significance of the new formula introduced. Additionally, explicitly mentioning the key findings from the analysis of SPF and the electronic quality factor, along with their broader implications for thermoelectric research, would strengthen the abstract.</p>	
<p><b>Are subsections and structure of the manuscript appropriate?</b></p>	<p><b>Yes</b></p>	
<p><b>Please write few sentences regarding the scientific correctness of this manuscript. Why do think that this manuscript is scientifically robust and technically sound? Minimum 3-4 sentences may be required for this part.</b></p>	<p>This manuscript appears scientifically robust and technically sound due to its comprehensive approach to analyzing thermoelectric materials with high Seebeck coefficients. The introduction of a new formula to estimate key parameters like resistivity, carrier concentration, and the Seebeck coefficient, when one is not measured, demonstrates methodological innovation. The extensive analysis of the scaled power factor (SPF) and the electronic quality factor across a large sample set provides a solid empirical foundation. Additionally, the study's examination of temperature dependencies and charge carrier scattering mechanisms offers valuable insights, reinforcing the manuscript's technical rigor and contribution to the field.</p>	
<p><b>Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</b></p>	<p><b>Sufficient and Recent but not all references are not cited properly</b></p>	
<p><b>Minor</b> REVISION comments</p> <p><b>Is language/English quality of the article suitable for scholarly communications?</b></p>	<p>Yes</p>	
<p><b>Optional/General</b> comments</p>	<ul style="list-style-type: none"> <li>• All references are not cited properly</li> <li>• Elaborate the Conclusion</li> </ul> <p>This classification indicates that the manuscript presents original research findings, including experimental data, new methodologies, and comprehensive analysis of thermoelectric materials with high Seebeck coefficients</p>	

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#### **PART 2:**

	<b>Reviewer's comment</b>	<b>Author's comment</b> <i>(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)</i>
<b>Are there ethical issues in this manuscript?</b>	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

#### **Reviewer Details:**

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Department, University & Country	<b>JNTUA College of Engineering, India</b>