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| Book Name: | [Engineering Research: Perspectives on Recent Advances](https://www.bookpi.org/bookstore/product/engineering-research-perspectives-on-recent-advances-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_5078** |
| Title of the Manuscript:  | **Diagnosis of Balcony Thermal Bridges Using Infrared Thermography** |
| 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.**

**Sust. Build. 7, 2 (2024).**

[**https://doi.org/10.1051/sbuild/2024002**](https://doi.org/10.1051/sbuild/2024002)

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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 is significant for the scientific community as it addresses a critical and often understimated issue in building energy performance—thermal bridging at balcony-to-wall junctions. The study provides a comprehensive evaluation of thermal bridges using infrared thermography, demonstrating its effectiveness as a non-destructive diagnostic tool for detecting heat loss, air leakage, and compliance with building regulations. Given the increasing global focus on energy efficiency and sustainable construction, the findings of this research underscore the necessity of refining regulatory frameworks to include mandatory quality assurance measures for thermal bridges. Furthermore, by highlighting discrepancies between actual building performance and regulatory standards, the study contributes valuable insights that can inform both policymakers and building professionals in optimizing energy efficiency strategies. |  |
| **Is the title of the article suitable?****(If not please suggest an alternative title)** | Yes is suitable and concise. |  |
| 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 of the article is generally comprehensive, as it effectively summarizes the study's objectives, methodology, key findings, and implications for building regulations. It clearly highlights the importance of thermal bridge detection using infrared thermography and its role in ensuring compliance with energy efficiency standards. There are no suggestion for addition. |  |
| **Is the manuscript scientifically, correct? Please write here.**  | The manuscript is scientifically correct, as it follows a rigorous methodology for assessing thermal bridges using infrared thermography, a well-established technique in building diagnostics. The study is structured logically, presenting a clear research problem, a detailed methodology, and a thorough discussion of the results. Furthermore, it is well-supported by references to relevant literature, strengthening its credibility. |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.****-** | The references in the manuscript are generally sufficient and include a mix of foundational studies and recent works. Many of the cited sources are from the last five years, which ensures that the research is up to date with current developments in infrared thermography and building energy performance. Additionally, the references cover a wide range of relevant topics, including thermal bridges, building envelope diagnostics, and regulatory frameworks.Some suggested additional references:* Bianchi, F., Baldinelli, G., & Asdrubali, F. (2018). "Infrared thermography assessment of thermal bridges in building envelope: experimental validation in a test room setup." *Sustainability*, 6(10), 7107–7120.
* Nardi, I., et al. (2016). "U-value assessment by infrared thermography: a comparison of different calculation methods in a Guarded Hot Box." *Energy & Buildings*, 122, 211–217.
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| Is the language/English quality of the article suitable for scholarly communications? | The language quality of the article is generally suitable for scholarly communication. |  |
| Optional/General comments | The manuscript is a valuable contribution to the field of building energy performance, particularly in the context of regulatory compliance and thermal bridge detection. A few refinements in language, data presentation, and discussion depth would enhance its impact and readability. The manuscript effectively demonstrates the significance of thermal bridge detection, *but it could benefit from a brief discussion on potential cost-effective solutions*. For example, suggesting practical mitigation strategies such as improved insulation techniques, thermal breaks, or regulatory enforcement measures would enhance its applicability for engineers and policymakers. Also, the conclusion effectively summarizes the study but *could be strengthened by explicitly stating how the findings contribute to future research or policy recommendations*. |  |

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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:**

**Altin Dorri, Polytechnic University of Tirana, Albania**