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| Book Name: | [**Science and Technology: Developments and Applications**](https://www.bookpi.org/bookstore/product/science-and-technology-developments-and-applications-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_4835** |
| Title of the Manuscript: | **Comprehensive Technical Inspection of a Medieval Bridge (Ponte de Vilanova, in Allariz) Using Microtechnological Tools** |
| 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.**

**Eng 2024, 5(4), 3259-3283.**

**Available:** [**https://doi.org/10.3390/eng5040171**](https://doi.org/10.3390/eng5040171)

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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.** | **Conducting accurate and reliable assessment on heritage structures without impacting the monuments integrity possess high importance. In this regard the manuscript is a valuable work relevant to the scope of novel methodologies for heritage inspection. Thermography, as one of the novel non-destructive tests, is finding its place in the field of building sciences as well as heritage preservation.** |  |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | **Yes.** |  |
| 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.** |  |
| **Is the manuscript scientifically, correct? Please write here.** | **Authors put a noticeable effort to provide a coherent work, but still there are issues that can be addressed in order to present a justify research:**  **1. There are issues with the body of the paper, The text is structured based on 5 sections in terms of : Introduction, Materials and Methods, Results, Discussion, and Conclusion.**  **The introduction part is quite long, providing an array of information which could easily belong to other sections. In addition, a literature review part is missing to demonstrate whether this work is along with the best practices in the state of the art or it provides a complete novel methodology.**  **I suggest to include a “State of the art” section. Also, it is recommended to break the long introduction into sub-sections, since in the current condition it includes a wide-variety of topics as:**  **• The bridge physics data and historical data**  **• Drone-oriented information**  **• Thermography-oriented data**  **• Damages in the foundation and so on.**  **2. It is expected that the introduction section systematically addresses problem statement based on the manuscript title and narrowing down the subject, all the other statements could be included in following parts (as they are repeated mostly).**  **3. The literature review should clearly identify the state-of-the-art and locate the current work in the context. The previous works, their research parameters and findings are not clearly reflected in the manuscript. It is obvious that a lot of effort has been made to do practical work in this research, but due to the lack of providing parameter classification resulted as summary of scientific literature and similar works (in form of tables, diagrams, etc.) it is not coherent research yet.**  **4. It is expected that the structure of research framework be based on the literature review. How current framework has raised from the literature is not clear. Supporting the proposed framework with data from the literature, eliminates the possible authors' bias.**  **5. In “Materials and Methods” section, I suggest to provide a summarized methodology flowchart/demonstration in line with titles provided in “Results” section.**  **6. The content related to literature review has been distributed all along the manuscript, which disrupts the reader.**  **7. It is highly suggested to provide a uniform regime which classifies any 1) observation, 2) analysis, and 3) conclusion, in the “Results” section. The current format provides twisted ambiguous data. I also suggest a summary table for this section.**  **8. The first paragraph of “Discussion” section is more relevant to conclusion. Then it is followed with a discussion on the benefits of drones for the inspection, an statement on the thermography benefits, etc. which all were already stated in the “Introduction” section.** |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.**  **-** | **Yes, but these should be addressed:**  **In Page 6 authors state that “Ideally, measurements should be taken when the ambient temperature is around 25 ◦C, with a solar intensity of 1000 W/m2 and some cloud cover” but do not provide any reference or supporting data for these measures.**  **In page 7 authors claim that “if the inspection is carried out during the summer period, the detection of possible problems relating to the degradation of structural elements may be easier.” Without providing any supporting reasons.** |  |
| Is the language/English quality of the article suitable for scholarly communications? | **Yes, But there are some flaws in the scientific tone, for example the application of term “There is no doubt (page 5 )” is not appropriate for a scientific manuscript.** |  |
| Optional/General comments | **There are statements in the manuscript that might reveal authors probable bias, and does not support a pre-planned impartial scientific investigation:**  **1) We decided to fly the drone inside both vaults to inspect their interiors**  **2) For the aerial thermographic auscultation, the observations made during the previous visual inspection were taken into account**  **3) If there had been any problem with the foundation of the bridge, it would have occurred in the foundation of the intermediate pier. Therefore, the point of greatest interest for the aims of the inspection was, without a doubt, the surroundings of this construction element.**  **They should be withdrawed or defensed scientifically.** |  |

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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)* |  |

**Reviewers:**

**Rasoul Hedayat Nejad, Islamic Azad University, Iran**