



Guillermo Barrios del Valle &lt;gbv@ier.unam.mx&gt;

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## Invitation to Review for Journal of Building Physics

1 message

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**Journal of Building Physics** <onbehalf@manuscriptcentral.com>

Wed, Sep 13, 2023 at 4:18 PM

Reply-To: dderomeeicjbp@gmail.com

To: gbv@ier.unam.mx

13-Sep-2023

Dear Dr. Barrios:

Manuscript ID JEN-23-0107 entitled "Numerical and experimental analysis of building walls thermal performance" has been submitted to Journal of Building Physics.

I invite you to review this manuscript. The abstract appears at the end of this letter. Please let me know as soon as possible if you will be able to accept my invitation to review. If you are unable to review at this time, I would appreciate you recommending another expert reviewer. You may e-mail me with your reply or click the appropriate link at the bottom of the page to automatically register your reply with our online manuscript submission and review system.

Journal of Building Physics is committed to ensuring that the peer-review process is as robust and ethical as possible. The Committee on Publication Ethics (COPE) guidelines regarding peer review can be found at the following link. Please read the guidelines before accepting or declining my invitation. [http://publicationethics.org/files/Ethical\\_guidelines\\_for\\_peer\\_reviewers\\_0.pdf](http://publicationethics.org/files/Ethical_guidelines_for_peer_reviewers_0.pdf).

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Once you accept my invitation to review this manuscript, you will be notified via e-mail about how to access ScholarOne Manuscripts, our online manuscript submission and review system. You will then have access to the manuscript and reviewer instructions in your Reviewer Center.

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I realize that our expert reviewers greatly contribute to the high standards of the Journal, and I thank you for your present and/or future participation.

Sincerely,

Dr. Derome  
Journal of Building Physics  
[dderomeeicjbp@gmail.com](mailto:dderomeeicjbp@gmail.com)

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### MANUSCRIPT DETAILS

TITLE: Numerical and experimental analysis of building walls thermal performance

ABSTRACT: The building sector accounts for a significant share of energy consumption and greenhouse gas emissions worldwide. One of the possible contributions to reducing this problem is to improve the energy performance of buildings by acting on their envelope and their systems. Therefore, the objective of this work is to develop experimental and numerical methods to evaluate the thermal performance of a hollow concrete masonry wall in order to propose a new configuration that can be used to improve its thermal performance. Initially, the thermal performance is determined for different wall configurations. Then, each case studied at the scale of the wall, was modeled and simulated in 3D using COMSOL Multiphysics® software under the same conditions, properties and dimensions as the one tested experimentally. Finally, this analysis was applied to a real existing building in Lebanon, composed of hollow concrete masonry walls, to study the energy needs of this type of wall. The conclusions confirm the use of this method for the thermal study by proposing an improvement of the energy consumption at the scale of the wall, and that the comparison between the numerical and experimental results gave very satisfactory results.