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# The Thermal Performance Energy of the building

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[/didyouknowpage1](#) [@didyouknowpage](#)

**Dear Human!**  
**If you don't destroy me. I will give you**  
**shelter, food, water and oxygen.**



**...A My BENACHIR Noughaila**



## **Dedication**

**I dedicate this modest work to my  
dearest parents, the first ones who  
encouraged and supported me during  
this long way.**

# Dedication



**Thanks**

**"Praise be to GOD, lord and master of the universes".**

**I would like to express my thanks to a whole world of people who have made this study possible and who have contributed to its elaboration in any form.**

**I address myself to GOD, the almighty, to thank him for having given me the courage, the support, the patience to carry out this work.**

THÈSE PRÉSENTÉE EN VUE DE L'OBTENTION DU  
DIPLOME DE DOCTORAT EN PHYSIQUE  
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## **Publication**

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**Benachir Nouhaila 2022 Paper ID APEN-MIT-2022\_8017 Applied Energy Symposium:Effect of solar ventilation on thermal improvement and energy efficiency of buildings using phase change materials.**

**Benachir Nouhaila Journal of Pharmaceutical Negative Results | Volume 13 | Special Issue 1 | 2022: Role of solar mechanical ventilation and phase change materials on thermal comfort and electrical energy of building envelope.**

**Benachir Nouhaila Benachir , J Nucl Ene Sci Power Generat Technol 2022, 11:9 August 29, 2022, manuscript no. JNPGT-22-73579; Publisher's Date of Assignment: August 31, 2022, pre QC no. JNPGT-22-73579 (PQ); Date of Revision: September 14, 2022, QC no. JNPGT-22-73579; Revision date: September 21, 2022, manuscript no. JNPGT-22-73579 (R); Publication date: September 28, 2022, DOI: 10. 4172/2325-9809.1000292 Nuclear Journal Énergie Science & Pooù Genrestion Ttechnologie.**

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**Benachir Nouhaila International Journal of Engineering and Applied Physics (IJEAP) Vol. 2, No. 3, September 2022. ISSN : 2737-8071. Simulation of solar mechanical ventilation with phase change materials in building envelope with 2 software TRNSYS and DESIGNBUILDER. Received June 9, 2022 Revised November 20, 2022 Accepted January 11, 2022. Int J Eng & App Phy, Vol. 2, No. 3, September 2022.**