World Academy of Science, Engineering and Technology
International Journal of Mathematical and Computational Sciences
Vol:14, No:12, 2020

Influence of Orientation in Complex Building Architecture in Various Climatic Regions in Winter

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Abstract : It is architecturally accepted that building form and design is considered as one of the most important aspects in affecting indoor temperature. The total area of building plan might be identical, but the design will have a major influence on the total area of external walls. This will have a clear impact on the amount of heat exchange with outdoor. Moreover, it will affect the position and area of glazing system. This has not received enough consideration in research by the specialists, since most of the publications are highlighting the impact of building envelope in terms of physical heat transfer in buildings. This research will investigate the impact of orientation of various building forms in various climatic regions. It will be concluded that orientation and glazing to wall ratio were recognized to be the most effective variables despite the shape of the building. However, linear ad radial forms were found more appropriate shapes almost across the continent.

Keywords : architectural building design, building form, building design in different climate, indoor air temperature
Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development
Conference Location : Chicago, United States
Conference Dates : December 12-13, 2020