Geometry of Courtyard Buildings as a Variable for Indoor Thermal Environment

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Declaration

I declare that this dissertation represents my own work, except where due acknowledgement is made, and that it has not been previously included in a thesis, dissertation or submitted to this University or to any other intuition for a degree, diploma or other qualification.

UOM Verified Signature

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Abstract

This study analyses the effect of geometry of courtyard dwellings for indoor thermal environment in Colombo Metro Region. Three Basic urban house forms exist in the CMR were selected for the study. Using parametric building energy simulation software called DEROB, the indoor Operative Temperature levels is analyzed. Four design options are analyzed to determine their potential to improve the indoor comfort levels. Further using two sets of climatic records (2000-2005 &1920-1960) final conclusion was taken by considering the upper limit of standard thermal comfort level is 27.5 °C.

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