

and the north building height-to-south building height ratio of 1.2-1.4 is validated by the parametric study based on a new created Beijing courtyard houses array model. The simulation for several variants of courtyard house also shows that the location of courtyards' main entrance will not affect the wind environment in the central courtyard space, if appropriate design measures are conducted.

In the section 3.1, the author implies that higher wind speed is preferable in summer. Nevertheless, higher wind speeds are not chosen from results shown in Fig. 6 and 7. The reason is that for a residential building designed under climatic conditions with significant seasonal variation, it is important to make a balance between different needs in different season. In this case, both higher wind speed in summer or lower wind speed in winter is essential for a comfortable wind environment. Therefore, the trade-off has been made when determining the optimal choice.

By understanding the key impact factors of wind environment in the courtyard house building form, architects can apply this vernacular architectural form and its climatic adaptability strategies into the environmental building design properly and wisely. This study focuses on the influence of the building geometry, therefore, more future works will be conducted on the thermal aspects for comprehensive understanding of vernacular building climatic design strategies.

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