

Accepted Manuscript

Title: Numerical modeling validation for the microclimate thermal condition of semi-closed courtyard spaces between buildings

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PII: S2210-6707(17)30498-5
DOI: <http://dx.doi.org/doi:10.1016/j.scs.2017.07.025>
Reference: SCS 719

To appear in:

Received date: 16-3-2017
Revised date: 17-7-2017
Accepted date: 31-7-2017

Please cite this article as: & Forouzandeh, Aysan., Numerical modeling validation for the microclimate thermal condition of semi-closed courtyard spaces between buildings. *Sustainable Cities and Society* <http://dx.doi.org/10.1016/j.scs.2017.07.025>

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Numerical modeling validation for the microclimate thermal condition of semi-closed courtyard spaces between buildings

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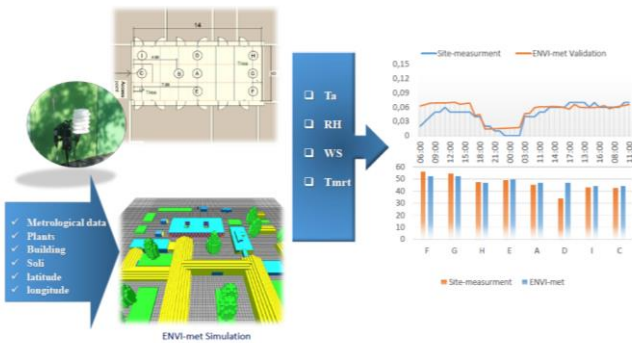
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Graphical abstract



Highlights:

- A proper choice and determination of input parameters for numerical simulations of semi-closed spaces with the software ENVI-met.
- Experimental measures of microclimatic variables inside medium-narrow courtyard spaces.
- Comparison between the ENVI-met outputs and the values measured experimentally at different points inside the courtyard and in different climate conditions.
- The model showed very similar results between measured and simulated data, with the root mean square error RMSE value 0.73°C for Ta, 3.34% for RH, 0.01 m/s for WS and 8.44 °C for Tmrt.

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