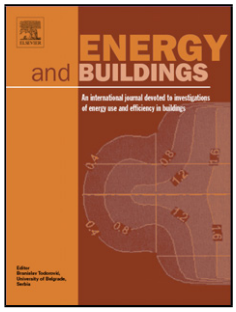

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PII: S0378-7788(17)31598-0
DOI: https://doi.org/10.1016/j.enbuild.2017.09.092
Reference: ENB 8011

To appear in: *ENB*

Received date: 4-5-2017
Revised date: 28-9-2017
Accepted date: 28-9-2017

Please cite this article as: Jingchao Xie, Yaping Cui, Jiaping Liu, Jianping Wang, Hong Zhang, Study on Convective Heat Transfer Coefficient on Vertical External Surface of Island-reef Building Based on Naphthalene Sublimation Method, Energy and Buildings https://doi.org/10.1016/j.enbuild.2017.09.092

Study on Convective Heat Transfer Coefficient on Vertical External Surface of Island-reef Building Based on Naphthalene Sublimation Method

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Abstract

The island-reef areas located in southern China have a unique climate—high temperature, high humidity, high concentrations of salt mist, strong solar radiation, small diurnal/annual temperature range and perennial sea breeze, and it is exceedingly diverse with the climate in Chinese inland. In order to prove the simple naphthalene sublimation method for measuring convective heat transfer coefficient (CHTC) is feasible in extreme climate conditions and obtain CHTC recommended value in island-reef areas, the study adopted the research methods to combine field measurement and data statistics. According to taking the measured data from naphthalene sublimation experiment as strong support, predictive formula of CHTC on vertical external surface of island-reef building under low wind velocities was raised to provide convenience for