

# 新竹地區街屋立面開口部採光模擬與分析

吳家安, 李少甫, 陳天佑

建築與都市計畫學系

建築與規劃學院

shaofu@chu.edu.tw

## 摘要

Light is an important part of building environment that a good daylighting design could enhance the comfort in the uses of the interior of building and reduce the energy consumption from illumination and air conditioners. Starting from the effects of the opening of town-house elevation on the light environment of interior space in Hsinchu Area, the author re-organized the data of the evolution of forms and style of the past town-houses through literature reviews. The research also included already completed connective houses cases in Hsinchu Area into the subjects of the research. The author used Ecotect software to implement simulation and analyses by choosing the representative opening of elevation in different periods. With the help of rendering software, Radiance, the author calculated simulated image data and conducted a continual data re-organization on the base of data before analyzed and compared the results of simulation of light environment. Furthermore, the author explored the changes and the atmosphere of light environment in the interior space of the openings of individual representative elevations under natural illumination in different periods. By means of such a research process, it is hoped that the research could usher in a new wave of green building designs that have been already popular in Taiwan in recent years. Regarding the design of physical environment, the author also hopes that there will be a new type of operation model that will enhance construction and design industries in controlling the uncertainty of natural environment in the early stage of design by providing an effective tool of computer aided design.

關鍵字：town-house elevation, lighting environment, computer simulation