

# 台灣傳統疊斗式木構架之空間資訊與應用

## The Space Information of Traditional *Dei-dou* Timber Frames in Taiwan and Their Applications

陳翠慧<sup>1</sup>徐明福<sup>2</sup>曾逸仁<sup>3</sup>

Tsu-hui Chen

Min-Fu Hsu

Yi-Jen Tseng

### 摘要

本研究係以理解釐清傳統匠師落篙思維為研究目的，除解讀篙尺之符號意義，了解其功能及特性之外，仍須配合量測傳統建築之測繪資料及匠師遺留手冊等綜合推演。本研究針對如何獲得精準的傳統建築疊斗式大木構架系統空間資訊，採用3D雷射掃描技術克服量測不易的優勢特性，建構疊斗式大木構架系統之數位向量模型。關鍵詞：台灣祠廟、3D雷射掃描、點雲資料、空間資訊、許漢珍、大木匠師、疊斗構件、丈篙、落篙、尺寸計畫。

### Abstract

The purpose of this study is mainly to understand the way of thinking for planning the dimensions of traditional *Dei-dou* timber frames in using Zhang-gao (the ruler for dimensioning) by master carpenters in Taiwan. Mainly based on the space information done by traditional surveys and drawings, the written records from the manual of master carpenters and the oral materials from interviewing master carpenters, the meanings of marks on the Zhang-gao and its functions and characteristics can be disclosed. In addition, by using 3D laser scanner, the space information of this kind of frame with more accuracy can be obtained from the existing building, so as to establish its 3D digital model. By comparing with these two kinds of information, the space information of a timber building with *Dei-dou* frames obtained from 3D laser scanner can be then used to trace the way of thinking for planning the dimensions done by the master carpenter who had been passed and any information had been disappeared in both written records and oral materials.

Keyword: Taiwan Temples, 3D Laser Scanning, Could Point, Space Information, Han-jen Hsu, master carpenter, *Dei-dou* Timber Frames, Zhang-gao, Luo-Gao, dimension of planning.

<sup>1</sup>嘉藥科大文化事業發展系 專任助理

<sup>2</sup>國立成功大學 建築系教授

<sup>3</sup>國立金門技院 建築與文化資產保存系 講師