

Lightweight 3D Seamless Spatial Data Acquisition

輕巧室內外數據採集 構建三維地理空間數據庫

Prof. SHI Wen-zhong (John), Professor, Department of Land Surveying and Geo-Informatics

Special features 技術特點

- ▶ Detailed 3D GIS model for the framework covering 3D geometric and topology modelling with semantics 三維幾何模型、拓撲模型和語義數據的三維地理資訊系統模型
- ▶ Enabled multi-source and multi-format data exchange 多種來源和多種格式的數據交換
- ▶ Lightweight 3D LiDAR for backpack platform 三維激光雷達輕量化背包平台
- ▶ Data collection both outdoor and indoor 室內及室外環境下的無縫數據採集

With the continuous urbanization of Hong Kong, the complexity and heterogeneity of spatial data in 3D and temporal-dimensions raise new challenges to the traditional 2D geodatabases.

There are 2 deliverables in this design: 1) 3D geodatabase framework design, and 2) Lightweight 3D Seamless Spatial Acquisition System. For the framework design, it has the capability to provide comprehensive topological relationship modeling, detailed 3D geospatial modelling, semantic & geometry modelling and interactive geo-visualization in 3D. While the SSDAS can integrate multi-sensor with an all-in-one mobile platform and light in weight.



This application will be applicable for geospatial modelling on complex city environment like Hong Kong.

伴隨香港城市化的持續推進，空間資訊在三維世界及時間維度上表現出的複雜性及異質性使得傳統的二維地理數據庫面臨諸多新的挑戰。理大團隊所提出的三維地理數據庫框架，能夠提供詳細及互動的三維地理資訊、語義數據和幾何模型化。利用輕巧的背包來進行三維激光雷達測量，有效地採集室內及室外環境下的無縫數據。此技術適用於構建具多元素的都市環境下的三維地理空間數據庫。



Contact Us
Ir Steven Lam, Manager
Innovation and Technology Development Office
T (852) 3400 2864
E steven.tf.lam@polyu.edu.hk



www.polyu.edu.hk/itdo