

Automatic Extraction of Building Heights from Aerial Digital Images

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ABSTRACT: Recently in the field of telecommunication, there is much interest in geo-surface characteristics of urban areas. Geophysical properties of urban features are now incorporated with accurate positional information to model the telecommunication environment. In this study, three-dimensional buildings are geometrically reconstructed from existing vector maps and aerial images. Accurate digital vector maps are easily available in Korea. However existing maps, which had been produced for GIS applications, do not have height information which is critical to three dimensional building reconstruction. Image matching techniques were applied to aerial image stereopairs to automatically extract the height information of buildings. Planimetric coordinates from vector maps were used as initial guides in the process. Future studies will be undertaken to link geophysical properties to the three-dimensional spatial objects reconstructed from this study thus bringing the telecommunication environment model closer to reality.