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Interpretation Based Building Extraction from Fusion of LIDAR And Aerial Imagery

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Abstract—Better fusion of Light Detection and Ranging (LIDAR) and aerial imagery for building extraction is very much needed application for continues updates for urban planning and survey information. This reason motivates to develop a seamless fusion of LIDAR and aerial imagery on the basis of aspect graph driven method. The feature of houses such as geometry shapes and structure is also explored. An aspect represents either projection or part of projection of 3D house primitive. By using aerial image processing in combination with results of LIDAR data processing, hierarichal graph of aspect are constructed. In the aspect graph describe the node represents the face aspect and the arc is described by attributes obtained by the formulated coding regulations, and the co-registration between the aspect and LiDAR data is implemented. As the result , the aspects graphs are interpreted for the extraction of houses by using MATLAB.

Keywords: Aerial imagery, LIDAR, extraction, image processing