

E.B. ANIL, R. SUNNAM, B. AKINCI. Challenges of identifying steel sections for the generation of as-is BIMs from laser scan data. Gerontechnology 2012;11(2):317; doi:10.4017/gt.2012.11.02.266.00

Purpose When a laser scan is performed and no prior information is available about the building, standard sections of components need to be identified from point cloud data in order to generate informative as-is building information models (BIMs). Currently, the standard steel sections used at a site are not automatically identified from the point cloud data. Various issues related to the laser scan data, challenge automation, such as occlusions, missing data points, angle of incidence, and imprecision of measurements on the data. **Method** The research described in this paper relates to the manual determination of steel beam sizes used in a steel worker training facility, which contained about 16 beams, 63 columns, and 12 scans collected over 4 days of construction. **Results & Discussion** We identified that occlusions and noise are the major challenges associated with recording accurate dimension measurements. The identification of correct steel sections based on such inaccurate measurements is even more challenging since the decision should be based on all defining (e.g., flange width, depth) dimensions.

Keywords: as-is BIM, as-built BIM, point cloud data, laser scanning, steel structures

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