

ANALYSIS OF ICP-BASED POINT CLOUD FUSION METHODS

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ABSTRACT:

Fusing and matching different point clouds to each other, even those acquired in different times, is a highlighted task currently in the field of geodesy, remote sensing and computer vision. Iterative Closest Point (ICP) method is a widely used technique to this purpose; starting from an appropriate initial state the method applies different algorithms to fuse the point clouds step by step. Our paper presents a method that employs cutting edge solutions, considering the special characteristics of the recently applied point clouds (e.g. that of laser scanning). The results are presented through sample terrestrial laser scanning datasets and comparative analysis also has been carried out using integrated ICP tools of commercial point cloud processing software.