



Benchmarking Image Matching for Surface Description

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Semi Global Matching algorithms have encompassed a renaissance to process stereoscopic data sets for surface reconstructions. This method is capable to provide very dense point clouds with sampling distances close to the Ground Sampling Resolution (GSD) of aerial images. EuroSDR, the pan-European organization of Spatial Data Research has initiated a benchmark for dense image matching. The expected outcomes of this benchmark are assessments for suitability, quality measures for dense surface reconstructions and run-time aspects.

In particular, aerial image blocks of two sites covering two types of landscapes (urban and rural) are analysed. The benchmark' participants provide their results with respect to several criteria. As a follow-up an overall evaluation is given. Finally, point clouds of rural and urban surfaces delivered by very dense image matching algorithms and software packages are presented and results are compared.