



3D MODELING OF INDOOR ENVIRONMENTS BY A MOBILE PLATFORM WITH A LASER SCANNER AND PANORAMIC CAMERA (ThuAmOR1)



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* Abstract :

One major challenge of 3DTV is content acquisition. Here, we present a method to acquire a realistic, visually convincing 3D model of indoor environments based on a mobile platform that is equipped with a laser range scanner and a panoramic camera. The data of the 2D laser scans are used to solve the simultaneous localization and mapping problem and to extract walls. Textures for walls and floor are built from the images of a calibrated panoramic camera. Multiresolution blending is used to hide seams in the generated textures. The scene is further enriched by 3D-geometry calculated from a graph cut stereo technique. We present experimental results from a moderately large environment real environment.

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