FREE TO GEO STEREO MOSAIC IMAGE GENERATION USING VIDEO IMAGERY

M. Noh[*a]

[a] Inha University, Geoinformatic Engineering, 253 Yonghyun-Dong Nam-Gu, 402-751, Incheon, Republic of Korea

Technical Commission VII Symposium 2010

KEY WORDS: Digital, Mapping, Automation, Georeferencing, Mosaic, Aerial

ABSTRACT:

The free-stereo mosaic image could be generated by using not GPS/INS and ground control points data but relative orientation parameters presented in 3D model coordinate system. 3D information extracted the free-stereo mosaic image is presented in 3D model coordinate system. For extracting 3D information in 3D absolute coordinate, methodology converting 3D model coordinate to 3D absolute coordinate needs for the free-stereo mosaic image. Also methodology converting the free-stereo mosaic image to the geo-stereo mosaic image needs. The 3D similarity transformation is used in general 3D coordinate transformation. The 3D similarity transformation is applied when not including error in 3D coordinate. But because of error caused by property of 3D model coordinate, 3D model coordinate in the free-stereo mosaic image generated by using relative orientation parameters includes relative error. Therefore methodology converting 3D model coordinate including error to 3D absolute coordinate needs. In this paper, we proposed psedo 3D similarity transformation converting 3D model coordinate including error in the free-stereo mosaic image to 3D absolute coordinate and psedo 2D similarity transformation based on psedo 3D similarity transformation converting the free-stereo mosaic image to the geo-stereo mosaic image.

TOPIC: Image processing and pattern recognition
ALTERNATIVE TOPIC: Geometric modeling