
A Self-Adaptive Algorithm of Automatic Interior Orientation for P31 Images

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Abstract

Though automatic interior orientation has been deeply studied, it still remains problem for close range images photographed by P31 camera, in which fiducial marks merge in images of objects. In this paper, automatic interior orientation is regarded as a global image matching problem, which can be processed in two steps. Firstly, several possible fiducial marks are extracted with straight-line extraction by template matching and Hough transformation. Secondly, the unique fiducial marks are determined by softassign and deterministic annealing technology combined with affine transformation from the candidates fiducial marks. Experiments and discussions of parameter are also presented. It is confirmed that the fiducial marks can be determined reliably and gross error can be detected. Other strategies such as automatic determination of the minimum searching range are also taken into consideration.
