

Poster Session (P)

Poster Lunch (1)

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A METHOD FOR CORRECTING THE IMAGE FUSION ERROR OF THREE NO-COLLINEAR CCD CHIPS SCANNING SENSOR

Abstract

Scanning sensors are widely used in space exploration, and two arrays three no-collinear CCD chips are used on many scanning sensors to improve the resolution of the image. Because the relationship between scanning angle and time is not completely linear, the scanning angle interval of different integral time is different. Therefore, the output image of different scanning sensor detector arrays cannot be aligned with each other precisely so that there are serrated areas in the image after image fusion. The traditional correcting way was moving the whole odd sequences image or even sequences image, which cannot eliminate the sub-pixel level error. And the errors of different rows are different, so the correcting results of different rows are different. The causes of fusion error are analysed in this paper. The model of image fusion error of three non-collinear CCD chips scanning sensor is built. A method for correcting the image fusion error based on scanning angle is designed from the model. The fusion error of laboratory acquired image is corrected by the method of this paper. The result shows that the method can effectively reduce the error, and significantly improve the quality of the image.