Abstract

This paper presents a method for image-based shift measurement and investigates solution for the mismatched bands of Egyptsat-1 satellite. A tiny error in measuring sub pixel shift leads to an incorrect image focusing. Different methods, using frequency approach are conducted with different Tukey window sizes for measuring the sub pixel shift. The present method use an aim to select most important frequency for three parameter; horizontal, vertical and rotation with different window size. To test the present method; we used the SPOT-5 satellite data with known displacement. The obtained results are acceptable, and might solve Egyptsat-1 problem of mismatches between its bands. Bands 1, 2 could also be used in super resolution reconstruction methods.
A Proposed Method to Measure Sub Pixel Shift in Egyptsat-1 Aliased Images

References

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Index Terms

Computer Science

Image Processing

Keywords

Spot-5; sub-pixel shift; Tukey windows; window size; super-resolution