

Dragon 4 mid-term call for papers

Instructions for authors

Thank you for choosing to submit your paper to Journal of Remote Sensing (JRS). These instructions will ensure we have everything required so your paper can move through peer review, production and publication smoothly. Please take the time to read and follow them as closely as possible, as doing so will ensure your paper matches the journal's requirements.

Preparing your paper

Structure

Your paper should be compiled in the following order: title; abstract; keywords; main text; references; Table(s) with caption(s) and figure(s) with caption(s) should be inserted at the right places in the text.

Author details

All authors of a manuscript should include their full name and affiliation on the cover page of the manuscript, includes an introduction to the first author and corresponding author

First author biography : includes full name, year of birth, gender, title, research interests, E-mail;

Corresponding author biography: include full name, year of birth, gender, title, research interests, E-mail

Word & page limits

Please include a word count for your paper.

A typical manuscript for this journal should be no more than 8000 words and no more than 8 colour pages.

Formatting and templates

Papers must be submitted in **word** format. To assist you in preparing your paper, please use the formatting template provided in annex 1.

References

References Include author(s) name(s), year of publication, chapter title/article title, journal title/book title, volume number/book chapter and the pagination must be present. Use of DOI is highly encouraged.

Figures

Figures should be high quality (1200 dpi for line art, 600 dpi for grayscale and 300 dpi for colour, at the correct size). Figures should be saved as TIFF, PSD or EPS files.

Tables

Tables should present new information rather than duplicating what is in the text. Readers should be able to interpret the table without reference to the text. Please supply editable files.

Equations

If you are submitting your manuscript as a Word document, please ensure that equations are editable. More information about mathematical symbols and equations.

Copyright

Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement'.

Paper Submission

Please submit your paper in MS Word format to the Dragon Beijing Office by no later than 1 September 2018 to:

Prof. Gao Zhihai

Email: dragon_caf@163.com

Image-derived MTF method and MTF compensation for CBERS-02B WFI imager

LI Xiaoying^{1,2}, GU Xingfa^{1,2}, YU Tao^{1,2}, CHENG Tianhai^{1,2}, GAO Hailiang^{1,2},
LI Jianguo^{1,2}, YANG Xiaofeng^{1,2}

1. State Key Laboratory of Remote Sensing Science, Jointly Sponsored by the Institute of Remote Sensing Applications of Chinese Academy of Sciences and Beijing Normal University, Beijing 100101, China;
2. Demonstration Centre for Spaceborne Remote Sensing National Space Administration, Beijing 100101, China

Abstract: In this paper, a method to evaluate the in-flight MTF (Modulate Transfer Function) of the WFI (Wide Field Imager) on CBERS-02B is presented and the WFI images are restored. The CCD is another payload on CBERS-02B with high spatial resolution. Using the CCD images as high resolution images, the two-image comparison approach is applied to determine the MTF of the WFI with a pair of images acquired over Beijing on Nov. 10, 2007. As the results, MTF values in three directions are derived. The MTF values at Nyquist frequency in cross-track, in-track and 45° directions were respectively about 0.43, 0.52 and 0.35 for red band and 0.30, 0.46 and 0.36 for near-infrared band. Image-derived MTF values are applied to calculate the half bandwidths of the WFI. The results indicate that the instant fields of view of the WFI in the cross-track, in-track and 45°-track directions were respectively 1.188 pixels, 1.165 pixels and 1.281 pixels for red band, and respectively 1.258 pixels, 1.195 pixels and 1.326 pixels for near-infrared band. Weiner filter model is used to perform the MTF compensation for WFI images. The results show that the restored image seemed clearer and contained more detailed information.

Key words: CBERS-02B, CCD, MTF, the two-image comparison approach

Commented [*1]: Title: no more than 12 words;

Commented [*2]: Abstract : no more than 200 words

Commented [*3]: key words:
5—8 keywords

First author biography: LI Xiaoying (1975—), female, associate professor.... E-mail: ... (include full name , year of birth , gender , title , research interests , E-mail)

Corresponding author biography: (include full name ,year of birth ,gender , title ,Research interests , E-mail)

1 INTRODUCTION

The MTF is a fundamental imaging system design specification and system quality metric often used in remote sensing. The MTF is acquired by performing FFT (fast fourier transform) on PSF (point spread function) and normalizing its modulation. It results from the cumulative effects of the instrumental optics (diffraction, aberrations, focusing error), integration on a photosensitive surface, charge diffusion along the array and image motion induced by the movement of the satellite during imaging (Leger ,et al., 2003). The MTF can be tested accurately in the lab, but it will change due to the refocus of the sensor and the MTF of the atmosphere. Thus, in-flight MTF determining and compensation is a vital step for the comprehensive applications of WFI images.

...The spectral band response functions of two corresponding spectral bands of CCD and WFI were similar, which were shown in Fig.1 and Table 1....

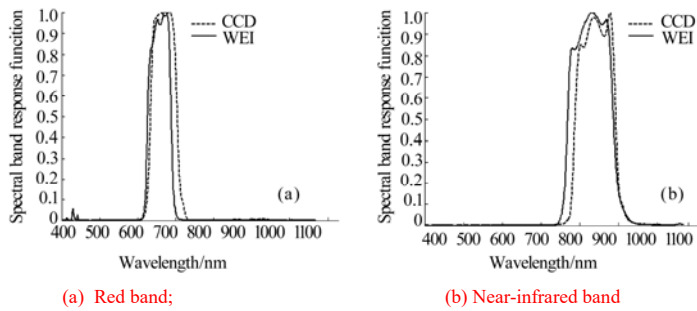


Fig. 1 Spectral band response functions of CCD and WFI

Table 1 The red and near-infrared bands of CCD and WFI

CCD bands	CCD /nm	Centre wavelength /nm	Spatial resolution /m	WFI bands	WFI /nm	Centre wavelength /nm	Spatial resolution /m
3	630—690	671.96	19.5	1	630—690	657.74	258
4	770—890	843.1	19.5	2	770—890	831.98	258

...

Acknowledgements: The CCD and WFI images were kindly offered by China Centre for Resource Satellite Data & Application.

First author biography: LI Xiaoying (1975—), female, associate professor.... E-mail: ... (include full name ,year of birth ,gender , title , research interests , E-mail)

Corresponding author biography: (include full name , year of birth , gender , title , Research interests , E-mail)

REFERENCES

Bretschneider T, Bones P J, McNeill S and Pairman D 2001. Image-based quality assessment of SPOT data. Proceedings of the American Society for Photogrammetry & Remote Sensing, St. Louis, April, 2001

Du H and Voss K J. Effects of point-spread function on calibration and radiometric accuracy of CCD camera. Applied Optics, 43 (3): 665-670

Fonseca L M G, Prasad G S S D and Mascarenhas N D A 1993. Combined interpolation—restoration of Landsat images through FIR filter design techniques. International Journal of Remote Sensing, 14 (13): 2547-2561 DOI:.....

Commented [d4]: All authors list, " and" before the last author