



[Volume XXXIX-B5](#)

Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XXXIX-B5, 387-392, 2012
www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XXXIX-B5/387/2012/
doi: 10.5194/isprsarchives-XXXIX-B5-387-2012
© Author(s) 2012. This work is distributed
under the Creative Commons Attribution 3.0 License.

ACCURACY ASPECTS OF UTILIZING RAW IMAGERY IN PHOTOGRAMMETRIC MEASUREMENT

C. Stamatopoulos, C. S. Fraser, and S. Cronk
Department of Infrastructure Engineering, University of Melbourne, Victoria 3010, Australia

Keywords: RAW Imagery, Photogrammetric Accuracy, Image Formation, Demosaicing, Target Centroiding

Abstract. Implicit in the projective transformation between object and image space in photogrammetry is the requirement that measured coordinates of points in the digital images accurately represent true values within the image coordinate system. This means that the integrity of image point positions has to be retained throughout the in-camera image preprocessing stage. However, the process of image formation and formatting for storage can impact upon image point position and it is imperative for subsequent photogrammetric measurement that image perturbations due to both sensor non-linearities and digital image file creation be fully described, modelled and mitigated to the maximum extent possible. Given that the integrity of image geometry is such an important factor in the optimisation of measurement accuracy in close-range photogrammetry, investigations into digital image formation are warranted. This paper describes such an investigation and it reports the development of a preprocessing approach for RAW imagery that can yield significant photogrammetric accuracy improvements over those obtained with JPEG imagery.

[Conference Paper](#) (PDF, 875 KB)

Citation: Stamatopoulos, C., Fraser, C. S., and Cronk, S.: ACCURACY ASPECTS OF UTILIZING RAW IMAGERY IN PHOTOGRAMMETRIC MEASUREMENT, Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XXXIX-B5, 387-392, doi: 10.5194/isprsarchives-XXXIX-B5-387-2012, 2012.

[Bibtex](#) [EndNote](#) [Reference Manager](#) [XML](#)

