THE MODELING OF ERROR BUDGET ANALYSIS AND TOLERANCE SPECIFICATIONS FOR BRESEX MULTIBAND LINEAR ARRAY CCD CAMERA

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In multispectral imaging, precise image-to-image registration is necessary to form a color composite. The accuracy to which images may be registered depends on many factors. Achieving a half-a-pixel registration error between corresponding elements of any two bands in an involved task and calls for stringent specifications on various sub-systems of a camera.

An attempt is made in this paper to present what are the sources of error, how to distribute them on an RMS basis to achieve a given total registration error and derive tolerance specifications for the sub-system components and for the alignment of the BRESEX camera. The final error budget is checked for its practicability, considering various options and making full use of the available state-of-the-art technology.