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Errata to
IEEE Standard for Characterization of Hyperspectral Imaging Devices—Ultraviolet Through Shortwave Infrared

STANDARDS

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Standards Committee
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Correction Sheet
11 February 2026

IEEE

6. Camera performance specification

6.2 Spectral characteristics

Correct the one cross-reference error in NOTE 1 of 6.2.4 as follows:

6.2.4 Spectral peak width

NOTE 1—This definition of peak width has been found to be robust against a range of different peak shapes, where a direct evaluation of the full width at half maximum could produce spurious results [B24]. ~~**Error! Reference source not found.**~~

6.3 Spatial characteristics

6.3.4 SPSF peak width

Correct the one cross-reference error in NOTE 1 of 6.3.4 as follows:

NOTE 1—This definition of peak width has been found to be robust against a range of different peak shapes, where a direct evaluation of the full width at half maximum could produce spurious results [B24]. ~~**Error! Reference source not found.**~~

6.3.6 Effective fill factor

Correct the four cross-reference errors in 6.3.6 as follows:

Definition: The effective fill factor [B32] ~~**Error! Reference source not found.**~~ is a quantity that describes the effect of insensitive areas within an image sensor, and similar pixel-scale response nonuniformities. It is defined for a single band, in a region of the FOV surrounding a given pixel. The effective fill factor in this neighborhood is given by Equation 1)a)i)(1):

$$\mathrm{EFF} = 1 - \iint_{PFOV} \left| \mathrm{SPSF}_{tot}(x, y) - \mathrm{SPSF}_{mean} \right| \mathrm{d}\,x\,\mathrm{d}\,y \tag{1}$$

where

EFF	is the effective fill factor, where a value of 1 corresponds to 100% fill factor
$\mathrm{SPSF}_{tot}(x, y)$	is the sum of the SPSF value at the point (x, y) for all the pixels in a neighborhood of the FOV having non-negligible sensitivity at this point, see [B32] ~~**Error! Reference source not found.**~~
SPSF_{mean}	is the local mean value of $\mathrm{SPSF}_{tot}(x, y)$ over this neighborhood (thus allowing for gradual changes over the FOV)

The integral in Equation (1) runs over the PFOV of the pixel under test.

For a line imaging camera, a fill factor is only defined in the across-track direction, since the sampling pattern in the along-track direction depends on the scan motion and thus depends on factors external to the camera. Then the definition Equation (1) reduces to a one-dimensional case where SPSFs are projections onto the across-track direction [B32]. ~~**Error! Reference source not found.**~~

NOTE 1—The deviation of effective fill factor from unity is an upper bound on the error in reflectance that can result from response nonuniformity on the scale of a pixel [B32]. ~~**Error! Reference source not found.**~~.

NOTE 2—This definition of effective fill factor reduces to the conventional fill factor for cases where the SPSF is box-shaped.

NOTE 3—An effective fill factor below unity may occur not only in cases where the image sensor has a fill factor below unity, but also for array imaging spectrometer cameras with an optical PSF smaller than or comparable to the PFOV.

Specification: The effective fill factor shall be calculated from output image SPSFs in each band. It shall be specified as the average, as well as the minimum value, over all bands and over the full FOV.

The effective fill factor shall be reported as a percentage, but may be omitted from the datasheet if the value exceeds 95%.

NOTE 4—For the determination of effective fill factor, it may be adequate to measure the SPSF of a single pixel and replicate it according to the PFOV to represent the neighborhood of pixels.