

Panchromatic

Detection: Determine the presence of objects, emissions, activities of interest.

No spectral resolution.

Number of spectral bands: 1

Multispectral

Classification: Spectrally separate different objects into similar groups.

Moderate spectral resolution.

Number of spectral bands: 2 to 100

Hyperspectral

Discrimination: Determine generic categories of objects (for example, tanks, camouflage, presence of effluent gases).

High spectral resolution.

Number of spectral bands: 100 to 1000

Ultraspectral

Identification: Identify specific objects (for example, types of tanks, or specific effluent gases).

Very high spectral resolution.

Number of spectral bands: over 1000

FIGURE 5-2 Spectral Imaging Resolution and Levels of Information Obtained