**Resolution and MTF Studies for Images of Optical Remote Sensing Satellite**

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**ABSTRACT:** The high-resolution images obtained from sub-meter optical remote sensing satellites like GeoEye, Worldview, and Pleiades are very welcome in the world image marketing due to their good image quality. The image quality metric for monochromatic imagery are usually related to the image spatial resolution and system MTF (Modulation Transfer Function) if the system sensitivity and noise are not considered. Most imaging systems sensitive to visible light and NIR (near infrared light) are detector-limited with the detector pixel size greater than diffraction-limited resolution (i.e., 1.22F ; F = focal ratio and  = wavelength). In other words, the optoelectronic instrument should be designed for appropriate values of focal ratio and detector size (or GSD) in order to get a good image quality with higher MTF and resolution (or cutoff spatial frequency). Statistic data of high resolution image records from FORMOSAT-2, SPOT series and Quick Bird are presented and FORMOSAT-5 simulated images for the quality demonstration are also illustrated in this study.