

SUPER-RESOLUTION POST-PROCESSING FOR SATELLITES WITH YAW-STEERING CAPABILITY

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ABSTRACT

We describe a method for improving Earth observation satellite image resolution, for specific areas of interest where the sensor design resolution is insufficient. Our method may be used for satellites with yaw-steering capability, such as NigeriaSat-2. We show that, according to the slanted edge modulation transfer function (MTF) plots, the effective resolution obtained by simulated yaw-steering of a satellite yielded a 138% improvement in resolution. This result equates to obtaining a 2.1 m resolution image from a sensor designed to acquire 5 m resolution images.