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PLEIADES-HR INNOVATIVE TECHNIQUES FOR RADIOMETRIC IMAGE QUALITY COMMISSIONING

G. Blanchet, L. Lebeque, S. Fourest, C. Latry, F. Porez-Nadal, S. Lacherade, and C. Thiebaut
CNES 18, avenue Edouard Belin, 31401 TOULOUSE CEDEX 4, France

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Abstract. The first Pleiades-HR satellite, part of a constellation of two, has been launched on December 17, 2011. This satellite produces high resolution optical images. In order to achieve good image quality, Pleiades-HR should first undergo an important 6 month commissioning phase period. This phase consists in calibrating and assessing the radiometric and geometric image quality to offer the best images to end users. This new satellite has benefited from technology improvements in various fields which make it stand out from other Earth observation satellites. In particular, its best-in-class agility performance enables new calibration and assessment techniques. This paper is dedicated to presenting these innovative techniques that have been tested for the first time for the Pleiades- HR radiometric commissioning.

Radiometric activities concern compression, absolute calibration, detector normalization, and refocusing operations, MTF (Modulation Transfer Function) assessment, signal-to-noise ratio (SNR) estimation, and tuning of the ground processing parameters. The radiometric performances of each activity are summarized in this paper.

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