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RADIOMETRIC BLOCK ADJUSTMENT AND DIGITAL RADIOMETRIC MODEL GENERATION

A. Pros, I. Colomina, J. A. Navarro, R. Antequera, and P. Andrinal,  
 Institute of Geomatics, Av. Carl Friedrich Gauss, 11 – Parc Mediterrani de la Tecnologia,  
 Altres SL, Juan Alvarez Mendizabal, 76 Bajo C, 28008 Madrid

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Abstract. In this paper we present a radiometric block adjustment method that is related to the concept of a terrain Digital Radiometric Model (DRM) as a complement to the surface models. A DRM, in our concept, is a function that for each ground point returns the Bidirectional Reflectance Distribution Function (BRDF). In a similar way to the terrain model, given an image block of some terrain area, we split the DRM generation in two phases: the preliminary DRM generation. In the paper we concentrate on the radiometric block adjustment step. In the block adjustment step, after a radiometric preliminary DRM generator, radiative transfer parameters, and ground reflectances and BRDFs at the radiometric ground control points, radiometric block adjustment is based on atmospheric radiative transfer (ART) model. The proposed concept is implemented and applied to a real dataset. The obtained results are presented. The DRM and orthophoto mosaics are generated at the seam lines.

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