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AUTOMATIC AND GENERIC MOSAICING OF MULTISENSOR IMAGES: AN APPLICATION TO PLEIADES HR

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Abstract. In the early phase of the Pleiades program, the CNES (the French Space Agency) specified and developed a fully automatic mosaicing processing unit, in order to generate satellite image mosaics under operational conditions. This tool can automatically put each input image in a common geometry, homogenize the radiometry, and generate orthomosaics using stitching lines. As the image quality commissioning phase of Pleiades1A is on-going, this mosaicing process is being tested for the first time under operational conditions. The French newly launched high resolution satellite can acquire adjacent images for French Civil and Defense User Ground Segments. This paper presents the very firsts results of mosaicing Pleiades1A images. Beyond Pleiades ' use, our mosaicing tool can process a significant variety of images, including other satellites and airborne acquisitions, using automatically-taken or external ground control points, offering time-based image superposition, and more. This paper also presents the design of the mosaicing tool and describes the processing workflow and the additional capabilities and applications.

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