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Nonuniformity Correction Technique in Infrared Video Using Feedback Recursive Least Square Algorithm

Authors : Flavio O. Torres, Maria J. Castilla, Rodrigo A. Augsburger, Pedro I. Cachana, Katherine S. Reyes

Abstract : In this paper, we present a scene-based nonuniformity correction method using a modified recursive least square algorithm with a feedback system on the updates. The feedback is designed to remove impulsive noise contamination images produced by a recursive least square algorithm by measuring the output of the proposed algorithm. The key advantage of the method is based on its capacity to estimate detectors parameters and then compensate for impulsive noise contamination image in a frame by frame basics. We define the algorithm and present several experimental results to demonstrate the efficacy of the proposed method in comparison to several previously published recursive least square-based methods. We show that the proposed method removes impulsive noise contamination image.

Keywords : infrared focal plane arrays, infrared imaging, least mean square, nonuniformity correction
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