DESIGN AND IMPLEMENTATION OF NOVEL REGRESSION FILTER FOR SPECKLE NOISE REMOVAL

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Abstract

In coherent imaging systems like SAR, CT scan, etc., speckle noise is apparent. This noise degrades the quality of the images with a granular like appearance. Lee filter, Homo-morphic filter better suit for speckle reduction. In this research paper a detail preserving speckle reduction filter is proposed using simple regression formula. The experimental results show the superiority of the designed filter up to noise variance of 0.05. The performance of the filter is compared with standard filters and the parameters used for comparison are MAE, MSE, PSNR and CoC.