

DENOISING AN IMAGE BY DENOISING ITS CURVATURE

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In this work we argue that when an image is corrupted by additive noise, its curvature image is less affected by it. In particular, we demonstrate that for sufficient noise levels, the PSNR of the curvature image is larger than that of the original image. This leads to the speculation that given a denoising method, we may obtain better results by applying it to the curvature image and then reconstructing from it a clean image, rather than denoising the original image directly. Numerical experiments confirm this for several PDE-based and patch-based denoising algorithms.

Joint work with Marcelo Bertalmío (Universitat Pompeu Fabra).