DENOISING AN IMAGE BY DENOISING ITS CURVATURE.

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In this work we demonstrate that when an image is corrupted by additive noise, its curvature image is less affected by it, that is, the PSNR of the curvature image is larger. We conjecture 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. The improvements in the quality of the results bring us closer to the optimal bounds recently derived by Levin et al. This is joint work with Marcelo Bertalmio from Universitat Pompeu Fabra, Barcelona, Spain.