

A Nonlinear Parabolic Partial Differential Equation Model for Image Enhancement

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Abstract : We present a robust nonlinear parabolic partial differential equation (PDE)-based denoising scheme in this article. Our approach is based on a second-order anisotropic diffusion model that is described first. Then, a consistent and explicit numerical approximation algorithm is constructed for this continuous model by using the finite-difference method. Finally, our restoration experiments and method comparison, which prove the effectiveness of this proposed technique, are discussed in this paper.

Keywords : anisotropic diffusion, finite differences, image denoising and restoration, nonlinear PDE model, anisotropic diffusion, numerical approximation schemes

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