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REVIEWER'S REPORT

Manuscript No.: IJAR- 52501 Date: 28-06-2025

Title:

NUMERICAL RESOLUTION OF THE NON-LINEAR NON-ISOTROPIC DIFFUSION EQUATION IN DIMENSION 2 WITH NOISE EFFECT: APPLICATION TO IMAGE PROCESSING.

Recommendation:
Accept as it is …… ……
Accept after minor revision**... YES**
Accept after major revision ……
Do not accept (*Reasons below*) ……

Rating	Excel.	Good	Fair	Poor
Originality			YES	
Techn. Quality			YES	
Clarity			YES	
Significance		YES		

Reviewer Name: Gulnawaz Gani

Comments for Publication

The paper's primary contribution lies in proposing and numerically solving a modified diffusion model that incorporates colored noise, demonstrating its superior performance over existing models for specific noise types.

Reviewer's Comment / Report

- This paper presents a numerical resolution of the non-linear non-isotropic diffusion equation with noise effect for image processing, focusing on white and colored noise.
- While the comparative analysis with Perona-Malik and Catté et al models shows promising results, especially with colored noise, the visual examples appear to still contain significant noise, which somewhat contradicts the strong claims of effective denoising.
- Further quantitative analysis beyond MSE, PSNR, and SSIM, perhaps including perceptual quality metrics or specific applications, would strengthen the paper's contribution.
- Additionally, a deeper discussion on the practical implications of the chosen parameters and their impact on different image types would be beneficial.
- Suggestions:
    - Math has not rendered properly at many places in the paper. Make sure to correct it before publication.