

Peer Review

Review of: " ρ -NeRF: Leveraging Attenuation Priors in Neural Radiance Field for 3D Computed Tomography Reconstruction"

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This work proposes leveraging the neural radiance field (NeRF) to implicitly represent the mass attenuation coefficients (MAC) of 3D phantoms in X-ray CT imaging. The neural network uses 3D spatial coordinates and prior MAC values as inputs and predicts the MAC along a given X-ray path. Numerical results indicate that the proposed method surpasses the performance of the neural attenuation field (NAF) and structure-aware NeRF (SAX-NeRF) across various settings.

To further substantiate the effectiveness of the implicit neural representation for 3D phantoms, it would be beneficial to include quantitative and qualitative evaluations of high-resolution reconstruction results.

Declarations

Potential competing interests: No potential competing interests to declare.