

Peer Review

# Review of: " $\rho$ -NeRF: Leveraging Attenuation Priors in Neural Radiance Field for 3D Computed Tomography Reconstruction"

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This manuscript is well written and technically sound. The authors proposed a modified NeRF method called  $\rho$ -NeRF, which is adapted for X-ray imaging by using attenuation values instead of color and density. It is a self-supervised approach for view synthesis in CT imaging. Compared with the state-of-the-art methods NAF and SAX-NeRF, the proposed  $\rho$ -based models add minimal computational increase.

My only concern is that the performance gain of the proposed method is marginal, which is demonstrated in Table 2, Figure 3, and Figure 4. We can see slight improvement in the quantitative analysis in Table 2. But in Figure 3 and Figure 4, the image quality improvement is minor. Do the images reconstructed by the proposed methods have major advantages in clinical applications? It is better to show some exemplary ROIs that are clinically relevant to demonstrate the benefit of the proposed method.

## Declarations

**Potential competing interests:** No potential competing interests to declare.