

Supplemental Materials

1. FLAIR Reconstruction

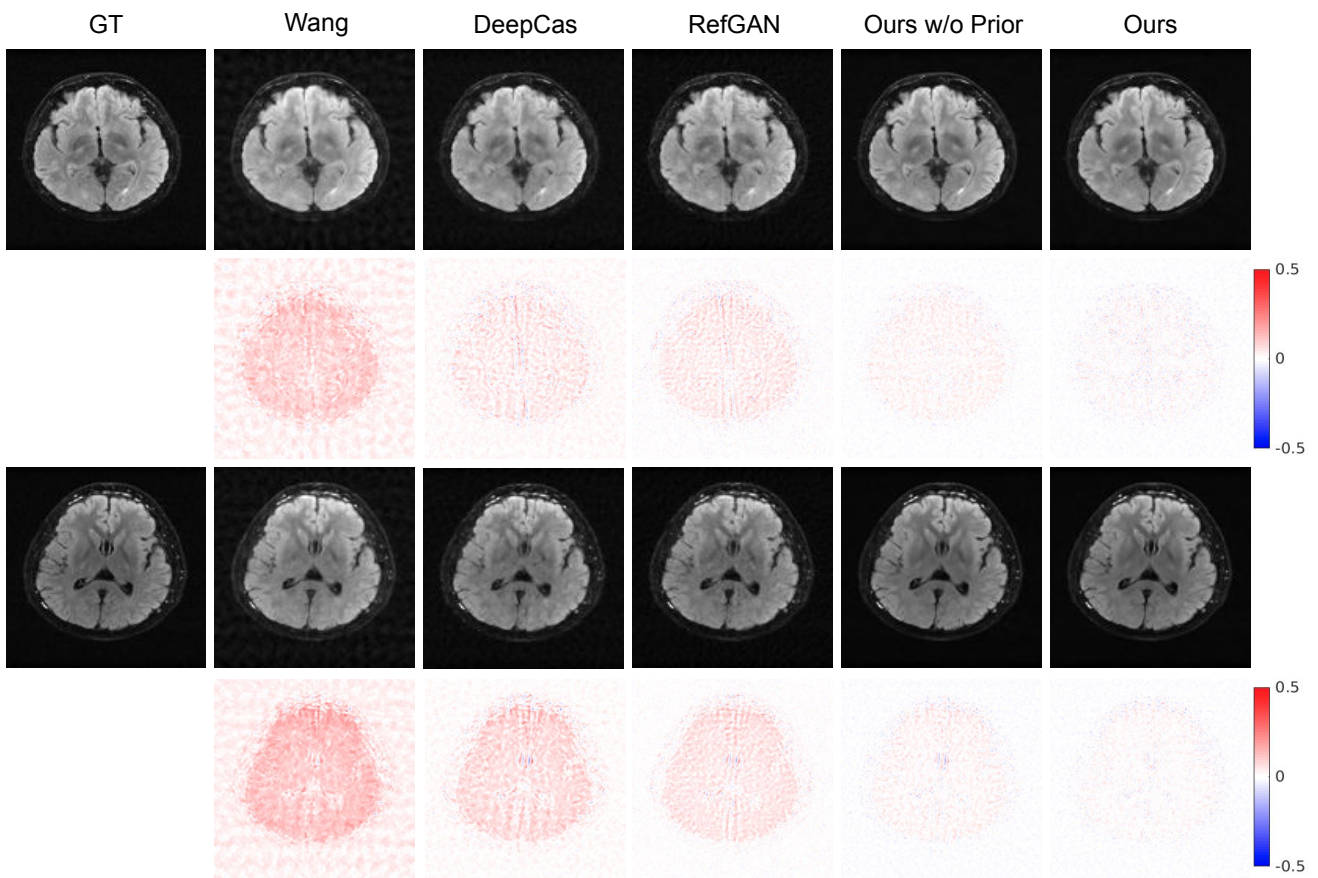


Figure 1: Comparison of reconstructions using radial trajectory at an acceleration rate $R = 5$.

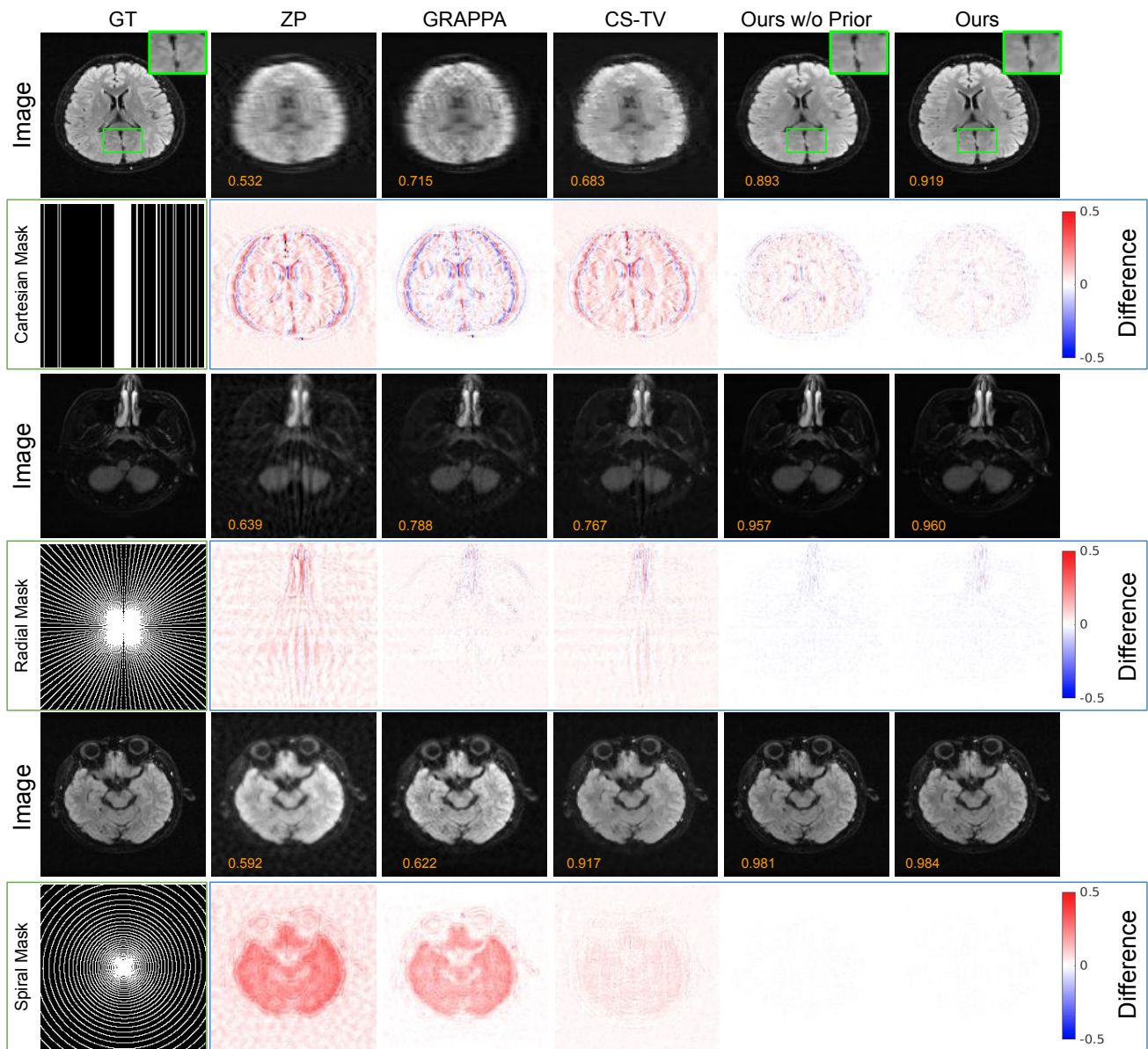


Figure 2: Reconstruction results from Cartesian/Radial/Spiral trajectory at under-sampling rate $R = 5$. The sampling pattern mask and difference images are shown on the second, fourth, and sixth row. Red boxes illustrate the enlarged views on details. The SSIM is indicated on the bottom left of the image.

Table 1: Quantitative comparison of FLAIR reconstructions from different undersampling patterns and methods at R = 5. Best results with and without T1 prior are marked in red and blue, respectively.

Cartesian	ZP	GRAPPA[1]	TV[2]	Wang[5]	DeepCas[4]	RefGAN[3]	Ours w/o Prior	Ours
PSNR [dB]	20.110	22.737	21.373	23.275	27.853	27.991	29.063	30.562
SSIM	0.608	0.733	0.696	0.772	0.864	0.868	0.889	0.914
MSE($\times 10^2$)	1.241	0.701	0.949	0.682	0.217	0.201	0.165	0.106
Radial	ZP	GRAPPA	TV	Wang	DeepCas	RefGAN	Ours w/o Prior	Ours
PSNR [dB]	20.178	24.920	23.685	29.201	32.955	32.04	35.834	36.369
SSIM	0.522	0.742	0.699	0.879	0.922	0.919	0.943	0.951
MSE($\times 10^2$)	1.268	0.541	0.561	0.108	0.038	0.071	0.028	0.026
Spiral	ZP	GRAPPA	TV	Wang	DeepCas	RefGAN	Ours w/o Prior	Ours
PSNR [dB]	22.602	29.324	32.836	34.987	40.287	36.881	43.740	43.988
SSIM	0.737	0.896	0.917	0.922	0.971	0.963	0.983	0.987
MSE($\times 10^2$)	0.857	0.291	0.064	0.048	0.011	0.021	0.005	0.004

References

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- [3] Tran Minh Quan, Thanh Nguyen-Duc, and Won-Ki Jeong. Compressed sensing mri reconstruction using a generative adversarial network with a cyclic loss. *IEEE transactions on medical imaging*, 37(6):1488–1497, 2018. 3
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