

Supplementary Materials: Learning Cross-Spectral Prior for Image Super-Resolution

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1 MORE EXPERIMENTAL RESULTS

Table 1 reports the experimental results about the number (T) of DMF modules in the CSPSR model. More DMF modules result in better SR results. However, as the number of DMF modules increases, the improvement degree decreases.

We also demonstrate the performance of different SR models in the ablation study on the cross-spectral stereo matching task, the RMSE results of which on the test images of the video ‘0224_0742’ from the RGB-NIR stereo dataset are shown in Figure 1.

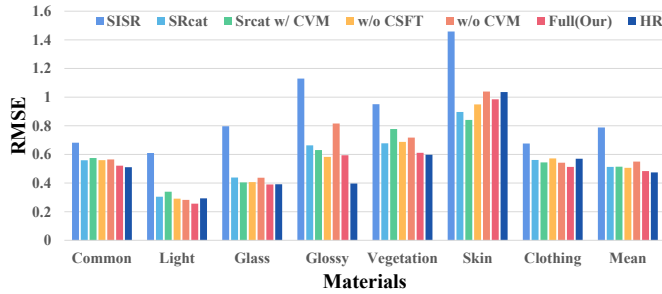


Figure 1: Quantitative comparison of the ablation study on the cross-spectral disparity prediction task. The disparity RMSE in pixels for different materials on ‘0224_0742’ of the RGB-NIR stereo dataset [8].

Figure 2 demonstrates that the proposed CSPSR outperforms the state-of-the-art SISR models and produces more accurate SR results of the left VIS images, especially for image areas with high brightness, with gains over 3dB for a scale 4.

Figure 3 demonstrate the quantitative and visual comparison on $\times 4$ SR.

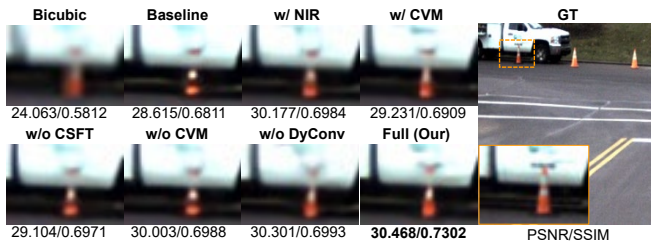


Figure 4: Visual SR results of the ablation study. Compared with the ‘w/o CSFT’, which generates blurred textures, and the ‘w/o CVM’, which produces some artefacts, our final model ‘Full’ achieves the best visual results with fine details.

Figure 4 demonstrates the SR results of the ablation study.

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Table 1: Experimental results about the number (T) of DMF modules in the CSPSR model. The $\times 4$ SR results (average PSNR \uparrow /SSIM \uparrow) of visible images on the RGBNIRStereo dataset.

T	'0224_0742'	'0222_0951'	'0222_1423'	'0223_1639'
1	26.247/0.6398	28.265/0.7922	26.887/0.7882	23.955/0.5937
5	27.063/0.6647	28.992/0.8051	27.267/0.8041	24.080/0.6101
10	27.460/0.6924	29.075/0.8124	27.759/0.8105	25.451/0.6583
15	27.615/0.6980	29.525/0.8188	28.210/0.8178	25.708/0.6630



Figure 2: Visual comparison with the state-of-the-arts (NLSN [7], ENLCN [5], HAT [2]). The $\times 4$ VIS SR results on the RGB-NIR stereo [8] and NIRScene [1] datasets.

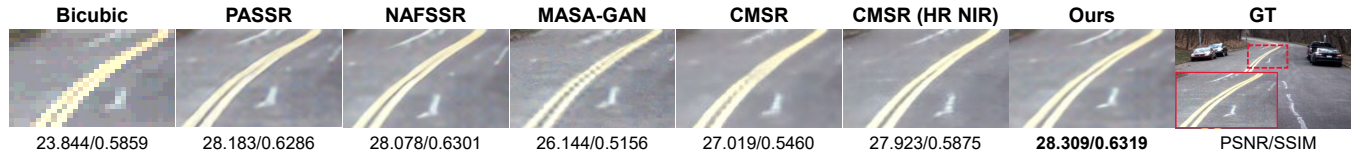


Figure 3: Visual comparison with the prior-guided SR methods, including StereoSR (NAFSSR [3]), reference-based SR (MASA [4]), and multi-modal SR (CMSR [6]) methods.