

Table 1: Evaluation results on the test set of multi-scale Blender dataset.

	PSNR $\uparrow$				SSIM $\uparrow$				LPIPS $\downarrow$			
	Full Res.	$\frac{1}{2}$ Res.	$\frac{1}{4}$ Res.	$\frac{1}{8}$ Res.	Full Res.	$\frac{1}{2}$ Res.	$\frac{1}{4}$ Res.	$\frac{1}{8}$ Res.	Full Res.	$\frac{1}{2}$ Res.	$\frac{1}{4}$ Res.	$\frac{1}{8}$ Res.
Zip-NeRF	31.68	34.80	36.55	37.26	0.9614	0.9785	0.9859	0.9901	N/A			
mip-NeRF	32.63	34.34	35.47	35.06	0.9579	0.9703	0.9786	0.9833	0.0469	0.0260	0.0168	0.0120
TensorRF	33.13	33.27	30.02	26.40	0.9630	0.9704	0.9624	0.9358	0.0474	0.0337	0.0488	0.0802
single-scale TensorRF	28.99	32.43	32.49	28.48	0.9296	0.9620	0.9704	0.9513	0.1055	0.0606	0.0474	0.0699
multi-scale TensorRF (4 $\times$ params)	33.22	35.78	35.45	34.66	0.9631	0.9760	0.9766	0.9778	0.0466	0.0293	0.0281	0.0235
mip-TensorRF (disc.)	32.57	35.43	36.64	36.59	0.9588	0.9759	0.9829	0.9863	0.0535	0.0275	0.0196	0.0150
mip-TensorRF (cont.)	32.50	35.41	36.70	36.93	0.9590	0.9764	0.9832	0.9869	0.0534	0.0271	0.0193	0.0140
mip-TensorRF (cont., dist.)	32.67	35.66	37.06	37.35	0.9597	0.9771	0.9840	0.9877	0.0526	0.0259	0.0180	0.0130

Table 2: Evaluation results on the test set of multi-scale Blender dataset rescaled to 8 resolutions.

	Average PSNR $\uparrow$								
	Avg.	Full Res.	$\frac{7}{8}$ Res.	$\frac{6}{8}$ Res.	$\frac{5}{8}$ Res.	$\frac{4}{8}$ Res.	$\frac{3}{8}$ Res.	$\frac{2}{8}$ Res.	$\frac{1}{8}$ Res.
single-scale TensorRF	31.30	29.01	30.57	31.10	31.55	32.48	33.07	33.00	29.59
mip-TensorRF (disc.)	34.40	32.55	33.72	34.19	34.70	35.42	33.15	35.94	35.54
mip-TensorRF (cont.)	34.81	32.55	33.90	34.38	34.84	35.44	35.69	35.96	35.70
mip-TensorRF (cont., dist.)	35.02	32.65	34.03	34.54	35.02	35.67	35.90	36.29	36.09

Table 3: Evaluation results on the test set of multi-scale LLFF dataset.

	Avg.	PSNR $\uparrow$				SSIM $\uparrow$				LPIPS $\downarrow$			
		Full Res.	$\frac{1}{2}$ Res.	$\frac{1}{4}$ Res.	$\frac{1}{8}$ Res.	Full Res.	$\frac{1}{2}$ Res.	$\frac{1}{4}$ Res.	$\frac{1}{8}$ Res.	Full Res.	$\frac{1}{2}$ Res.	$\frac{1}{4}$ Res.	$\frac{1}{8}$ Res.
mip-NeRF	26.84	N/A				N/A				N/A			
TensorRF	26.03	26.73	27.89	26.70	22.81	0.8386	0.8932	0.8964	0.8063	0.2044	0.1069	0.1099	0.1685
single-scale TensorRF	27.34	24.49	28.27	29.94	26.65	0.7454	0.8861	0.9374	0.8962	0.3119	0.1455	0.0851	0.1242
mip-TensorRF (disc.)	30.69	26.55	29.74	32.31	34.16	0.8316	0.9175	0.9598	0.9799	0.2173	0.0916	0.0456	0.0261

Table 4: Comparisons between learnable kernels and fixed Gaussian kernels on multi-scale Blender dataset.

	Stdev.	PSNR $\uparrow$				SSIM $\uparrow$				LPIPS $\downarrow$			
		Full Res.	$\frac{1}{2}$ Res.	$\frac{1}{4}$ Res.	$\frac{1}{8}$ Res.	Full Res.	$\frac{1}{2}$ Res.	$\frac{1}{4}$ Res.	$\frac{1}{8}$ Res.	Full Res.	$\frac{1}{2}$ Res.	$\frac{1}{4}$ Res.	$\frac{1}{8}$ Res.
Fixed	1.0; 1.0; 1.0; 1.0	28.59	32.46	33.75	29.15	0.9267	0.9627	0.9763	0.9574	0.0991	0.0494	0.0332	0.0593
	1.0; 1.5; 2.5; 4.0	30.84	34.10	35.37	35.87	0.9478	0.9698	0.9878	0.9829	0.0697	0.0355	0.0255	0.0211
Learnable	1.0; 1.0; 1.0; 1.0	32.57	35.43	36.64	36.59	0.9588	0.9759	0.9829	0.9863	0.0535	0.0275	0.0196	0.0150
	1.0; 1.5; 2.5; 4.0	32.62	35.47	36.70	36.81	0.9593	0.9762	0.9832	0.9868	0.0529	0.0272	0.0192	0.0141

Table 5: Evaluation results for different kernel sizes on multi-scale Blender dataset.

	Kernel sizes	PSNR $\uparrow$				SSIM $\uparrow$				LPIPS $\downarrow$			
		Full Res.	$\frac{1}{2}$ Res.	$\frac{1}{4}$ Res.	$\frac{1}{8}$ Res.	Full Res.	$\frac{1}{2}$ Res.	$\frac{1}{4}$ Res.	$\frac{1}{8}$ Res.	Full Res.	$\frac{1}{2}$ Res.	$\frac{1}{4}$ Res.	$\frac{1}{8}$ Res.
mip-TensorRF (disc.)	5; 7; 9; 11	32.52	35.39	36.61	36.58	0.9588	0.9759	0.9829	0.9862	0.0533	0.0275	0.0195	0.0151
	11; 13; 15; 17	32.52	35.38	36.59	36.46	0.9588	0.9759	0.9829	0.9859	0.0535	0.0276	0.0199	0.0156
	3; 5; 9; 17	32.48	35.31	36.52	36.15	0.9586	0.9755	0.9827	0.9853	0.0515	0.0262	0.0176	0.0137

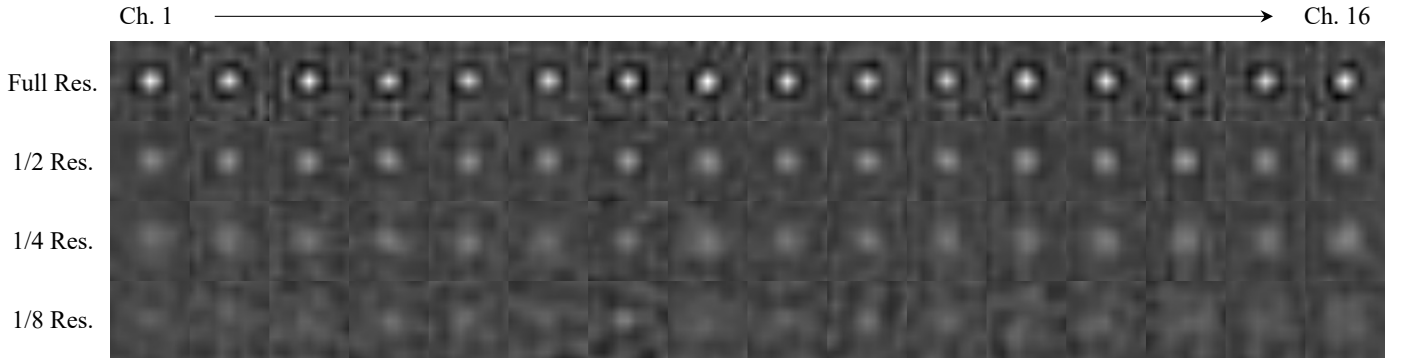


Figure 1: Visualization of appearance kernels of mip-TensorRF (disc.) trained with discrete scale coordinates.