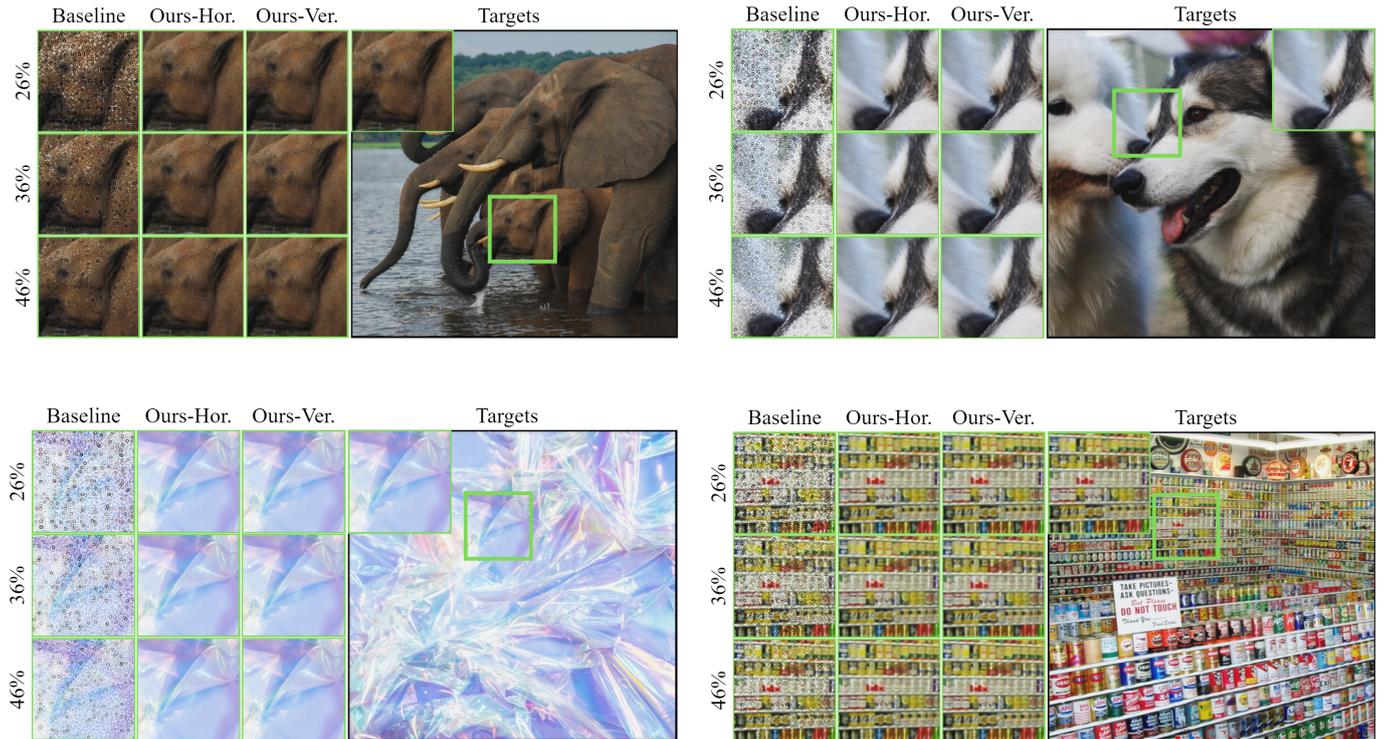


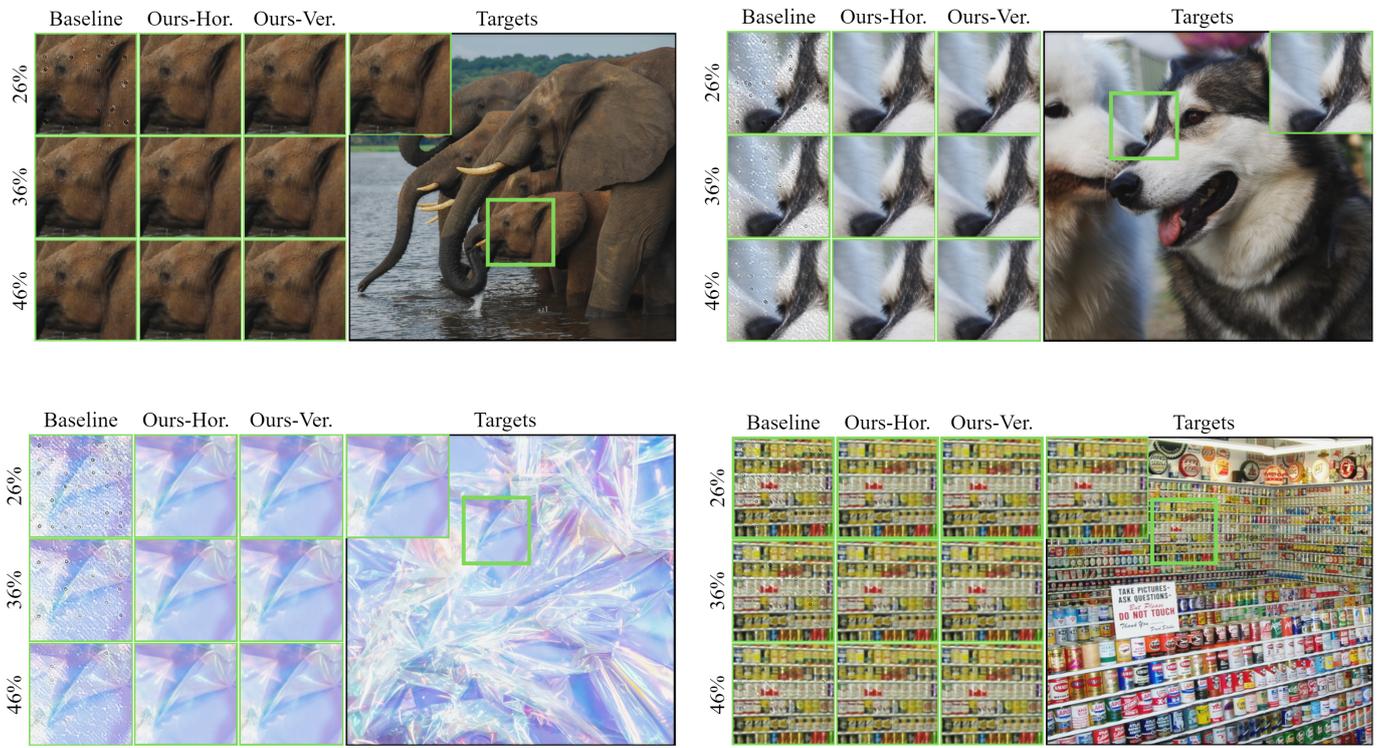
## Supplementary: Compressing Double-Phase Holograms using 2D Gaussians



**Figure 1:** Supplemental comparison of numerical reconstructions using various ratios and methods by Rotation-and-Scale (RS) factorization. (Source Images: CarolineG2011, steve.garner32, Emily Bernal, northbaywanderer).

**Table 1:** Comparison between the baseline with our work (both using Cholesky factorization), with horizontal or vertical decomposition, in hologram fidelity (left) and reconstructed image quality (right) using PSNR and SSIM under equivalent Compression Ratio (CR).

	Patch Size	Gauss.	PSNR (dB) $\uparrow$	SSIM $\uparrow$	CR $\downarrow$
<b>Baseline</b>	64 $\times$ 64	400	32.52/23.29	0.99/0.49	<b>26%</b>
	128 $\times$ 128	1,600	33.82/25.25	0.99/0.55	<b>26%</b>
	256 $\times$ 256	8,000	35.87/ <b>29.40</b>	0.99/ <b>0.71</b>	33%
	512 $\times$ 512	32,000	<b>36.27</b> /28.59	<b>0.99</b> /0.68	33%
<b>Ours-Hor.</b>	64 $\times$ 64	400	<b>49.31/43.45</b>	<b>0.99/0.97</b>	<b>26%</b>
	128 $\times$ 128	1,600	48.77/42.89	0.99/0.96	<b>26%</b>
	256 $\times$ 256	8,000	48.85/42.40	0.99/0.96	33%
	512 $\times$ 512	32,000	48.35/41.69	0.99/0.95	33%
<b>Ours-Ver.</b>	64 $\times$ 64	400	<b>49.64/42.91</b>	<b>0.99/0.97</b>	<b>26%</b>
	128 $\times$ 128	1,600	49.08/42.39	0.99/0.96	<b>26%</b>
	256 $\times$ 256	8,000	48.92/41.78	0.99/0.96	33%
	512 $\times$ 512	32,000	48.62/41.18	0.99/0.95	33%



**Figure 2:** Supplemental comparison of numerical reconstructions using various ratios and methods by Cholesky factorization. (Source Images: CarolineG2011, steve.garner32, Emily Bernal, northbaywanderer).