SSIM vs. Reconstruction Time 1.0 --- PtyRAD a **PtyRAD** PtyShv PtyShv → py4DSTEM 3.0 0.9 2.5 0.8 Shift (rad) 200 iters ≈ 33189 sec 200 iters ≈ 5285 sec SSIM 0.7 1.5 **Ground Truth** py4DSTEM 0.6 26 sec 0.5 310 sec 200 iterations, batch size 16 0.5 166 sec 12 probes, 6 slices 0.4 200 iters ≈ 61935 sec

Reconstruction Time (sec)

 $10^{4}$ 

10<sup>3</sup>

 $10^{2}$