| Method | Dic. Size | Denoising | | | | | | Run Time | Berkeley1 | |
| | | Berkeley1 | | Berkeley2 | | Berkeley3 | | | PSNR (dB) | Time (min) |
| | | PSNR (dB) | Time (min) | PSNR (dB) | Time (min) | PSNR (dB) | Time (min) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Proposed ($\alpha = 1/k_i$) | 40k | 18.55 | 0.07 | 20.46 | 0.07 | 17.02 | 0.07 | 1x | 17.16 | 0.02 |
| Proposed ($\alpha = 0.1$) | 40k | 18.79 | 0.21 | 20.70 | 0.21 | 17.76 | 0.21 | 3x | 17.42 | 0.04 |
| OMP | 40k | 18.37 | 21.41 | 19.89 | 21.46 | 19.27 | 17.37 | 286x | 16.94 | 0.55 |
| SPGL1 | 4k | 14.92 | 95.81 | 16.06 | 90.42 | 16.34 | 80.96 | 1272x | 17.27 | 13.88 |
| FPC_AS | 4k | 13.64 | 124.2 | 14.85 | 123.0 | 14.85 | 123.0 | 1763x | 17.24 | 2.44 |
| GPSR | 4k | 18.72 | 30.29 | 20.40 | 26.55 | 19.36 | 39.81 | 460x | 17.24 | 11.37 |
| KD-Tree | 40k | 18.06 | 101.7 | 19.63 | 101.7 | 17.21 | 101.7 | 1452x | 16.77 | 2.66 |
| ANN | 40k | 18.03 | 24.58 | 19.59 | 25.41 | 16.60 | 25.29 | 358x | 16.77 | 0.83 |