More rank, more detail

The same 1,600 × 1,200 image, approximated with fewer numbers.

Original



1,920,000 image entries · reference

Rank 10



1.46% of entries · 27.0% error

Rank 50



7.29% of entries · 15.1% error

Rank 150



21.88% of entries · 10.3% error

rsvd: p = 10, q = 2, seed = 42 for each rank. Error: relative Frobenius norm before display clipping.

Factor storage counts k(m + n + 1) numeric entries; these percentages are not JPEG or file-compression ratios.

S. Taheri (2006), edited by Fir0002 · CC BY-SA 2.5 · Grayscale and low-rank adaptations