Error Analysis

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Table 1: Frobenius error and energy retention for Einstein image

Rank (k)	Absolute Frobenius Error	Relative Frobenius Error	Energy Captured (%)
5	5574.33	0.2556	93.47
20	2525.98	0.1158	98.66
50	1203.07	0.0552	99.70
100	275.30	0.0126	99.98

Table 2: Frobenius error and energy retention for Globe image

Rank (k)	Absolute Frobenius Error	Relative Frobenius Error	Energy Captured (%)
5	25276.10	0.1597	97.45
20	12298.49	0.0777	99.40
50	7279.02	0.0460	99.79
100	4379.68	0.0277	99.92
200	2247.24	0.0142	99.98

Table 3: Frobenius error and energy retention for Grayscale image

Rank (k)	Absolute Frobenius Error	Relative Frobenius Error	Energy Captured (%)
5	12758.70	0.0658	99.57
20	5308.79	0.0274	99.92
50	1491.40	0.0077	99.99
100	619.86	0.0032	99.99
200	533.72	0.0028	99.99

Table 4: Frobenius error and energy retention for Rick image

Rank (k)	Absolute Frobenius Error	Relative Frobenius Error	Energy Captured (%)
5	35257.90	0.1344	98.19
20	17655.10	0.0673	99.55
50	10169.60	0.0388	99.85
100	6041.35	0.0230	99.95
200	2975.02	0.0113	99.99

Table 5: Frobenius error and energy retention for Jon Snow image

Rank (k)	Absolute Frobenius Error	Relative Frobenius Error	Energy Captured (%)
5	75504.60	0.3559	87.33
20	41592.78	0.1961	96.16
50	20315.64	0.0958	99.08
100	9136.67	0.0431	99.81
200	3683.18	0.0174	99.97