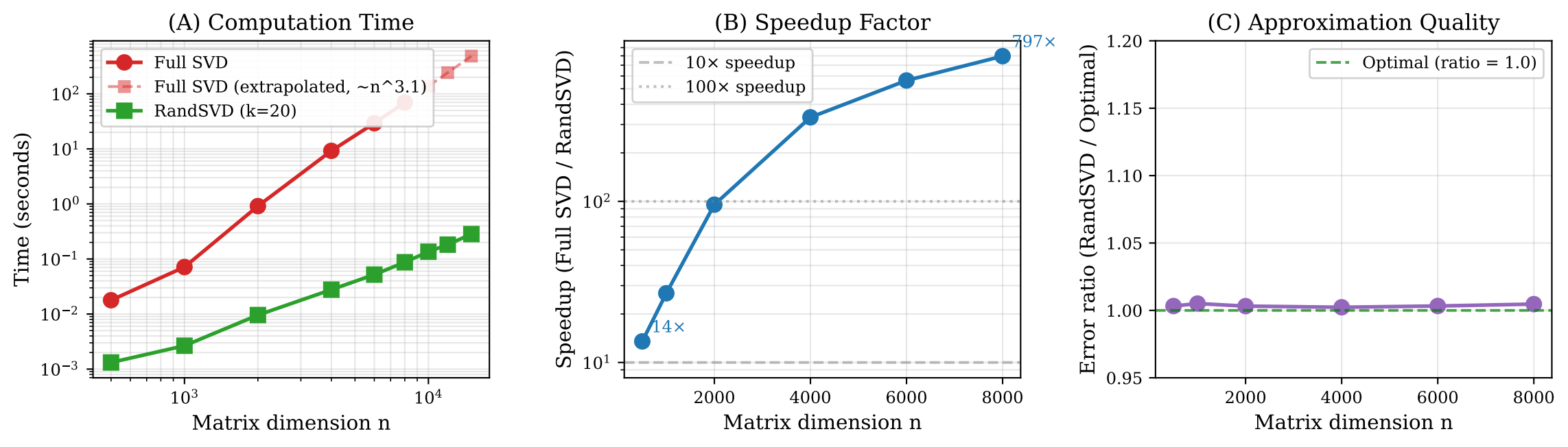
(A) Computation Time
Full SVD
Full SVD (extrapolated, ~n^3.1)
RandSVD (k=20)
Time (seconds)
Matrix dimension n
(B) Speedup Factor
10× speedup
100× speedup
14×
797×
Speedup (Full SVD / RandSVD)
Matrix dimension n
(C) Approximation Quality
Optimal (ratio = 1.0)
Error ratio (RandSVD / Optimal)
Matrix dimension n