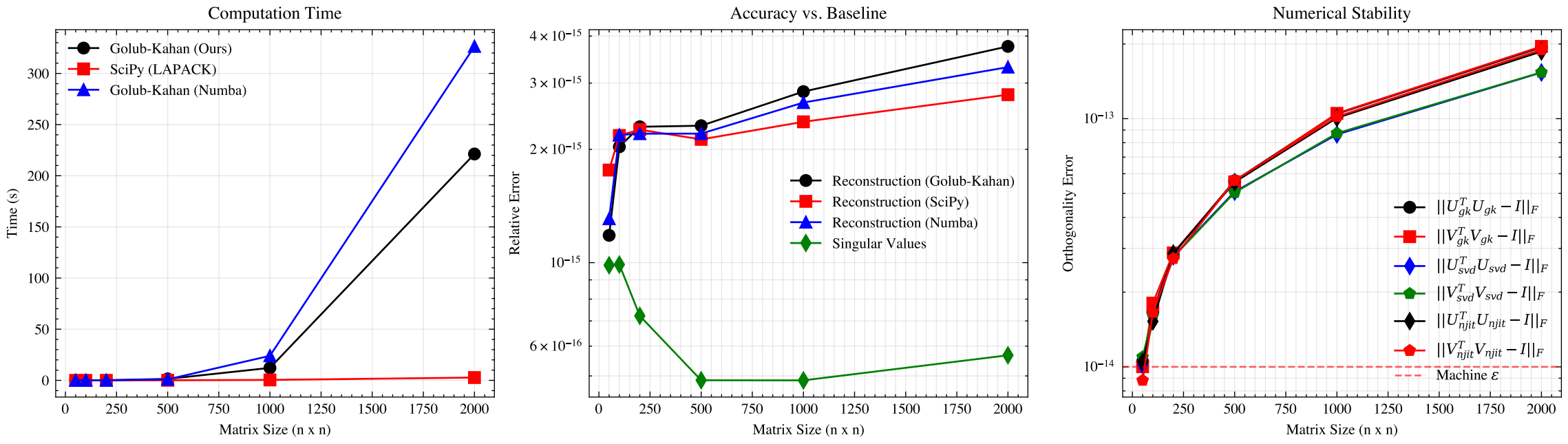
Computation Time
Golub-Kahan (Ours)
SciPy (LAPACK)
Golub-Kahan (Numba)
Time (s)
Matrix Size (n x n)
Accuracy vs. Baseline
Reconstruction (Golub-Kahan)
Reconstruction (SciPy)
Reconstruction (Numba)
Singular Values
Relative Error
Matrix Size (n x n)
Numerical Stability
$||U_{gk}^T U_{gk} - I||_F$
$||V_{gk}^T V_{gk} - I||_F$
$||U_{svd}^T U_{svd} - I||_F$
$||V_{svd}^T V_{svd} - I||_F$
$||U_{njit}^T U_{njit} - I||_F$
$||V_{njit}^T V_{njit} - I||_F$
Machine ε
Orthogonality Error
Matrix Size (n x n)