
Advances of Numerical Linear Algebra: Theory, Algorithms and Applications

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Outlook

1. Review and catch up (Day1A.pdf)
Frequently used matrix decompositions (Day1B.pdf)
2. High performance matrix computations (Day1C.pdf)
case study: matrix multiplication and BLAS
3. Numerical linear algebra techniques in model order reduction of linear dynamical systems (Day1D.pdf)
4. Numerical linear algebra in computational material science
 - Part I (Day2A.pdf, Day2B.pdf)
Hubbard model and quantum monte carlo simulation
Hubbard matrix analysis
 - Part II (Day3A.pdf, Day3B.pdf)
Self-adapting direct linear solvers
Preconditioned iterative linear solvers