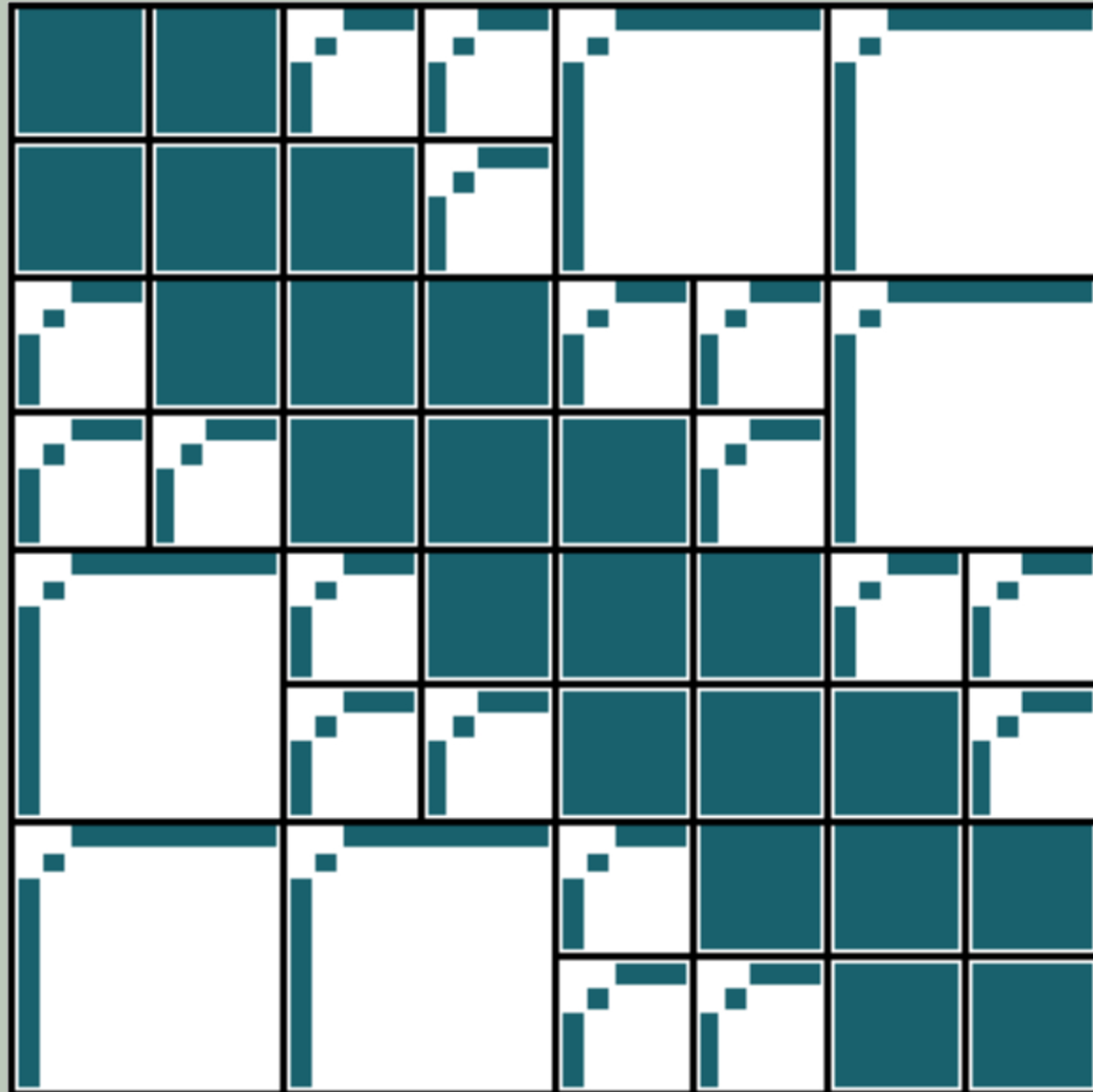


Iterative and Direct Solvers for Linear Systems



ISC 4933/5935

SPRING 2019

Linear systems play a central role in countless problems including partial differential equations, inverse problems, and data analysis. Performing a matrix-vector multiplication, matrix inversion, or matrix factorization is computationally expensive if applied in its textbook form. This course will explore iterative and direct algorithms that accelerate these basic tasks. Examples of algorithms that may be covered include multigrid, fast summation methods, preconditioners, incomplete LU, interpolative decomposition, randomized algorithms, and low-rank factorizations.

3 Credit Hours

Monday Wednesday Friday 10:10-11:00 ■ 152 Dirac Science Library