

abstract

COMPUTER SCIENCE/DISCRETE MATH II

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

In 1969 Strassen discovered the surprising fact that it is possible to multiply two 2×2 matrices by using only 7 multiplications. This leads to an algorithm which multiplies two $n \times n$ matrices with $n^{(2.81+o(1))}$ field operations. Coppersmith and Winograd in 1990 improved the constant 2.81 to 2.376 but the best constant is still unknown. We present group theoretic algorithms for matrix multiplication and we discuss underlying combinatorial problems. This is a joint work with: H.Cohn, R.Kleinberg and C.Umans