

ICM-9408-66 Parallel Polynomial Operations: a progress report, Paul S. Wang.

ABSTRACT Investigations at Kent on parallel algorithms and implementations for polynomial factoring and GCD are overviewed. Topics include polynomial factoring modulo small primes, univariate p -adic lifting, detection of true factors, reformulation of lift basis, and parallel polynomial multiplication. Recent work on multivariate p -adic lifting and sparse polynomial GCD are given in more detail. Implementations are done on shared-memory multiprocessors with programs written in C. Mentioned also are current and future research in collaboration with Sandia National Laboratories.