# Parallel Computation of Involutive and Gröbner Bases Using the Tableau Representation of Polynomials

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**Abstract.** For the work with polynomials such data representations as lists of terms, geobuckets, and heaps are usually used. In this talk an attempt for using new representation of polynomials for parallel computing involutive and Gröbner bases of systems of nonlinear polynomial equations will be made. Using the proposed data structure makes it possible to compute complex and memory-hungry tasks on the cluster of computers utilizing MPI technologie. In-depth explanation of the new table-based data structure and various benchmarks of parallel and sequental computations will be presented.

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