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The talk is intended to present latest achievements in searching what structural algebraic conditions a finite algebra \mathbf{A} has to satisfy in order to have a polynomial time algorithm that decides if an equation $\mathbf{s}(x_1,\ldots,x_n)=\mathbf{t}(x_1,\ldots,x_n)$, where \mathbf{s},\mathbf{t} are polynomials over \mathbf{A} , has a solution in \mathbf{A} .

Several connections to modular circuits CC^0 of constant depth will be discussed.

Most of the results are obtained together with Piotr Kawalek, Jacek Krzaczkowski or Armin Weiß.