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Combinatorial applications of a randomized algorithm for solving systems of polynomial equations. Preliminary report.

The theory of violator spaces provides an abstract framework for constructing an algorithm to solve large systems of polynomial equations. This algorithm has expected runtime that is linear in the number of input polynomials. In this talk, I will describe the violator space approach for solving systems of polynomials and explore potential combinatorial applications of this idea. (Received February 22, 2016)