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Comparing Anderson Acceleration to Newton-based Solvers on Multiphysics Systems

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Anderson Acceleration has recently garnered attention as an alternative to Picard and Newton-based nonlinear solution algorithms. This talk will discuss the efficiency and robustness of the method compared to the traditional Newton-based solution techniques. Augmentations to the general algorithm to improve performance will be discussed. Examples will be drawn from production simulation codes used for nuclear reactor core simulation and ice sheet modeling.