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Title: Convergence of the Gauss-Newton method for a special class of systems of equations under a majorant condition

Abstract: In this talk we study the Gauss-Newton method for a special class of systems of nonlinear equation. On the hypothesis that the derivative of the function under consideration satisfies a majorant condition, semi-local convergence analysis is presented. In this analysis the conditions and proof of convergence are simplified by using a simple majorant condition to define regions where the Gauss-Newton sequence is "well behaved". Moreover, special cases of the general theory are presented as applications.