Zhang, Li-Li; Zhang, Yun-Peng; Ren, Zhi-Ru
New convergence proofs of modulus-based synchronous multisplitting iteration methods for linear complementarity problems.

Summary: Modulus-based synchronous multisplitting iteration methods were recently proposed for solving linear complementarity problems. We give a much simpler approach to prove the convergence of these iteration methods when the system matrix is an $H+$-matrix. Moreover, this idea can also be applied to prove the convergence of two-step modulus-based synchronous multisplitting iteration methods, which avoids the construction of the irreducible system matrix and the introduction of the infinite norm.

Keywords: linear complementarity problem; modulus-based method; matrix multisplitting; convergence; iteration method
doi:10.1016/j.laa.2015.04.029