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Xinyun Zhu* (zhu_x@utpb.edu), Odessa, TX, and **Hong-tao Fan, Mehdi Bastani and Bing Zheng**. *A class of upper and lower triangular splitting iteration methods for image restoration.*

Based on the augmented linear system, a class of upper and lower triangular (ULT) splitting iteration methods are established for solving the linear systems arising from image restoration problem. The convergence analysis of the ULT methods is presented for image restoration problem. Moreover, the optimal iteration parameters which minimize the spectral radius of the iteration matrix of these ULT methods and corresponding convergence factors for some special cases are given. In addition, numerical examples from image restoration are employed to validate the theoretical analysis and examine the effectiveness and competitiveness of the proposed methods. Experimental results show that these ULT methods considerably outperform the newly developed methods such as SHSS and RGHSS methods in terms of the numerical performance and image recovering quality. Finally, the SOR acceleration scheme for the ULT iteration method is discussed. (Received August 31, 2018)