

Among most of the message scheduling strategies for low-density parity-check (LDPC) codes, the dynamic scheduling strategy behaves best in error correction performance. Dynamic selection is an integral part of dynamic scheduling decoding, which plays a decisive role throughout the decoding process. Usually, the dynamic selection strategy based on the message residuals only is employed in dynamic decoding algorithms, while other potentials of the dynamic selection strategy are rarely cared about. In this paper, we propose the triple judgment dynamic selection strategy combined with a Stability Criterion. Interestingly, the new strategy can be well applied to two different dynamic algorithms, namely, the V-VCRBP and the V-CVRBP algorithms. The proposed strategy has a great advantage: locating the message to be preferentially updated is extremely quick and accurate. Simulation results demonstrate that the V-VCRBP algorithm outperforms existing decoding algorithms in terms of BER performance and convergence speed, while the V-CVRBP algorithm has good error correction performance with a lower computational complexity.