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**An improved ARED algorithm for congestion control of network transmission.** (English)

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**Summary:** In order to achieve high throughput and low average delay in computer network, it is necessary to stabilize the queue length and avoid oscillation or chaos phenomenon. In this paper, based on Adaptive Random Early Detection (ARED), an improved algorithm is proposed, which dynamically changes the range of maximum drop probability  $p_{\max}$  according to different network scenarios and adjusts  $p_{\max}$  to limit average queue size  $q_{\text{ave}}$  in a steady range. Moreover, exponential averaging weight  $w$  is adjusted based on linear stability condition to stabilize  $q_{\text{ave}}$ . A number of simulations show that the improved ARED algorithm can effectively stabilize the queue length and perform better than other algorithms in terms of stability and chaos control.

**MSC:**

**68M20** Performance evaluation, queueing, and scheduling in the context of computer systems Cited in 8 Documents

**90B18** Communication networks in operations research

**Full Text:** [DOI](#) [EuDML](#)

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