

A Double Blocking Dynamic Framed Slotted ALOHA Anti-Collision Method for Mobile RFID Systems

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Abstract

In recent years, the issue of tag identification in mobile RFID systems has gradually received attention. Some effective methods have been proposed to make mobile tag identification. Differing from the existing mobile tag identification methods, such as PRB, which only blocks arriving tags and staying tags to avoid collision in the tag identifying, this research proposes double blocking dynamic framed slotted ALOHA anti-collision (DBDFSA) to identify the mobile tags. DBDFSA not only blocks arriving tags and staying tags but also blocks the arrival tags and waiting tags to avoid collisions. This study compared DBDFSA with two other methods, ABS and PRB, in terms of throughput and service time. The results show that DBDFSA has the best performance in comparison with PRB and ABS.

Keyword : Mobile tag identification, double blocking, RFID