一种新的**RFID**传感网络中多阅读器防碰撞协议

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摘 要：

阅读器碰撞问题(RCP)是影响射频识别(RFID)系统读取效率的关键问题。本文提出了一种新的解决阅读器碰撞问题的协议－DREAM协议。新协议根据阅读器间的信号干扰情况在多个阅读器中动态产生若干个临时的控制中心作为簇首，合理安排各个阅读器的读取顺序，完全避免了阅读器间的信息碰撞。理论和仿真结果表明DREAM协议相对于现有性能较优的PULSE协议，在极大地提高系统读取效率的同时，大大地节省了阅读器的功率消耗。

关键词：射频识别，RCP，防碰撞，MAC

A Novel Anti-Collision Protocol in Multiple Readers RFID Sensor Networks

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Abstract:

The reader collision problem (RCP) is the key problem affecting the reading efficiency in RFID systems. This paper proposed a novel anti-collision protocol－DREAM protocol to solve the reader collision problem in RFID systems. The new protocol dynamically selects temporal control centers to perform as cluster headers based on interference conditions and arranges the communication sequence of readers reasonably to completely avoid signal collisions among multiple readers Both analytical and simulation results show that comparing to the current advanced PULSE protocol, DREAM protocol increases the reading efficiency significantly and meanwhile reduces the power consumption.

Keywords: RFID, RCP, Anti-collision, MAC

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