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(57) Abstract :
The present invention discloses a system (100) and method (200) for efficiently transmitting Hybrid Automatic Repeat Request (HARQ) Acknowledgment (ACK) and Negative Acknowledgment (NACK) messages in wireless communication systems. The system (100) includes a transmitter (102), a processor (104), and a memory (106) with specific functionalities to receive data packets, determine retransmission requirements, generate HARQ ACK and NACK messages, aggregate identical messages into groups, and control transmission within optimal time slots. The processor (104) further preprocesses data packets, adapts transmission time slots based on communication conditions, analyzes feedback for adaptive retransmission, dynamically adjusts data rate and manages message transmission from a buffer.

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