

# Approach for discriminating losses in 802.11 wireless LANs

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Murad Abusubaih

murads@ppu.edu

## Abstract

Packet loss in 802.11 WLANs (wireless local area networks) can occur either because of collision or a signal that is not strong enough at the receiver antenna. A challenging issue is the determination of packet loss cause once it occurs, which is a key for improving the performance of 802.11 WLANs. This article proposes and evaluates an algorithm to achieve this goal. The core of this algorithm is power level statistics at the receiver MAC. The algorithm learns from the received power levels of both correct and corrupted packets and decides whether a packet is lost because of collision or a weak signal. The results of extensive simulation experiments have shown that the proposed approach has a good potential for diagnosing the cause of packet losses in 802.11 WLANs.