1. Introduction

- Issue of frame loss in Wireless Networks
- Burst errors
- Retransmission protocol with admissions control

2. Causes of Frame Loss

- Propagation Effects
  - Reflection
  - Diffraction
  - Scattering
  - Doppler Shift

Figure A.10 Sketch of Three Important Propagation Mechanisms: Reflection (R), Scattering (S), Diffraction (D) [AND59]
2. Causes of Frame Loss

- Bursty Error Characteristics
  - Errors occur in bursts
  - Random occurrence
  - Lack of global knowledge
  - Burst errors are detected as frame losses just like collisions and contention

3. Retransmission Approaches

- Instant Entry
- Fixed-Delay Backoff
- Probabilistic Backoff
- Exponential Backoff
- Requeuing
- Drop of Frame

4. HD TDMA

<table>
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<tr>
<th>Beacon Frame</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Reserved</th>
</tr>
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<tbody>
<tr>
<td>TDMA Cycle</td>
<td></td>
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<tr>
<td>slot 0</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>slot n</td>
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</tbody>
</table>

'Super Frame' with its contents
5. Transmission scheduling

5.1 Admission Control
- Probabilistic admissions control protocol
- DATA-ACK
- DATA-NEGACK
- Negative Acknowledgement → Can’t be applied.

5.2 Retransmission protocol
- Failed transmission at a station
  - Per station delay period
  - Per Station queue
- Exponential Backoff Mechanism

6. Implementation
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- Transmission queuing
- Shared memory

7. Conclusions
- Dealing with channel induced errors in TDMA based MAC system
- Causes and characteristics of errors in contention free wireless environment.
- Proposal of a two tiered approach.

Merci