

Wireless Video Transmission System

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Global Information and Telecommunication Studies
Waseda University

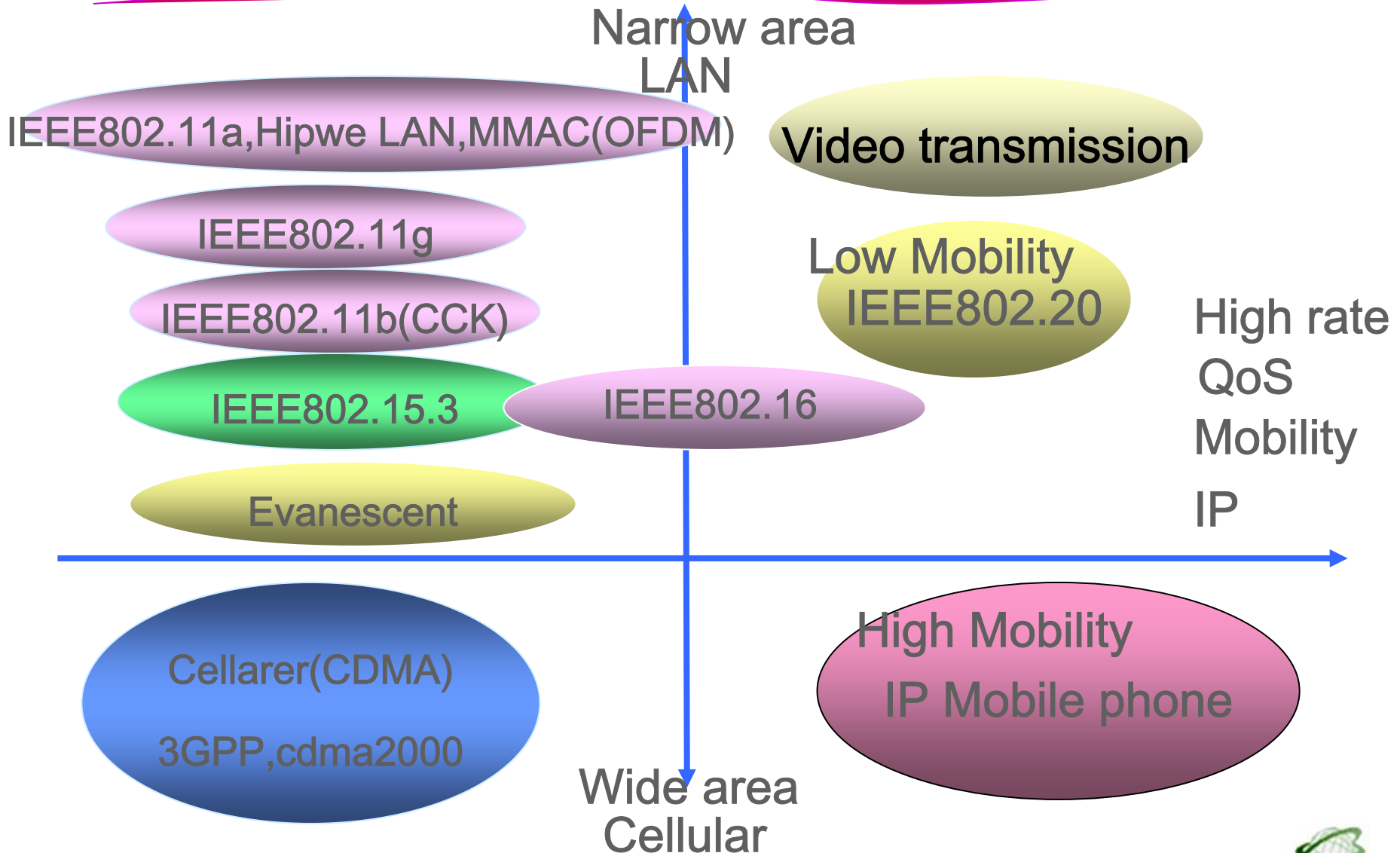
Takuro Sato



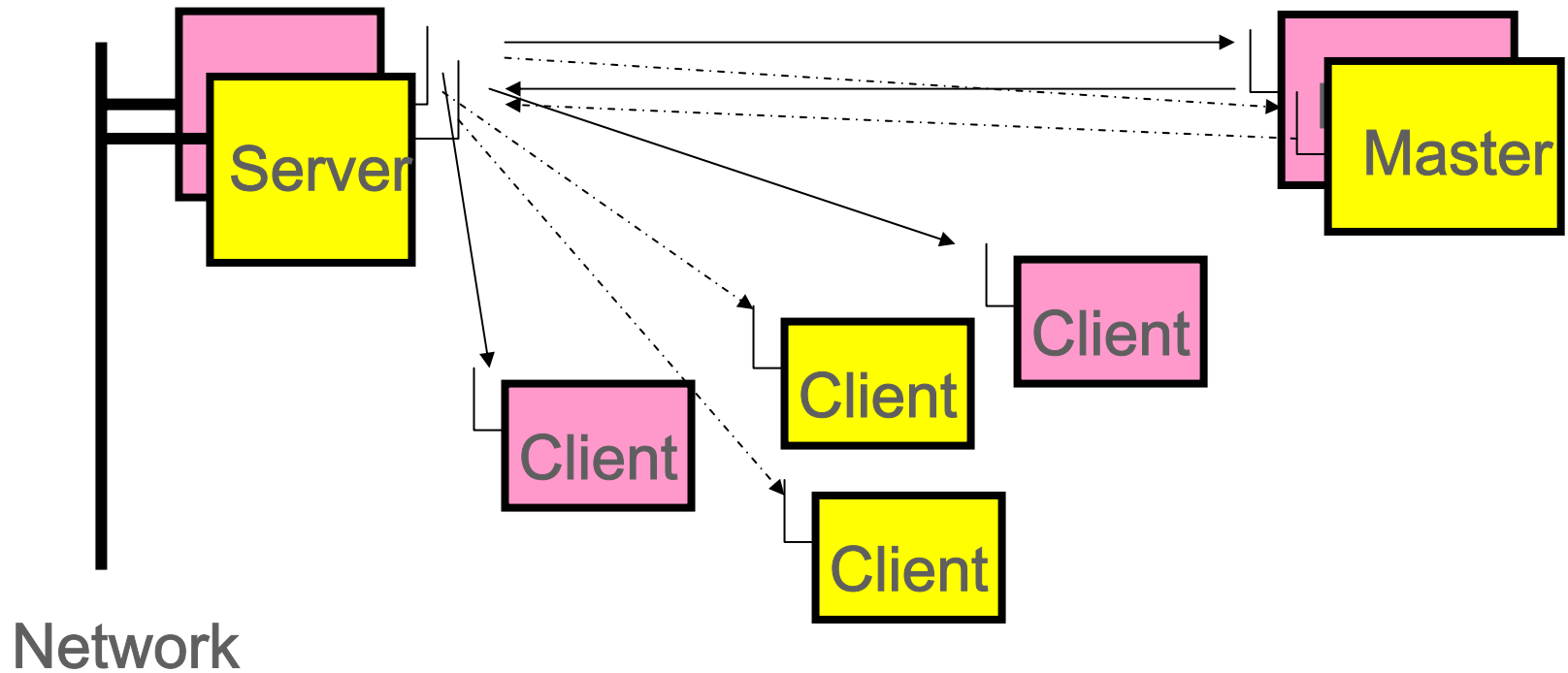
Outline

- Wireless LAN Standard and Technology
- N to M Video transmission system
- Protocol of N to M Video system
- Video coding technologies
- FEC performance for 11b
- Evanescent system
- Demonstration for 11a, 11b and Evanescent system

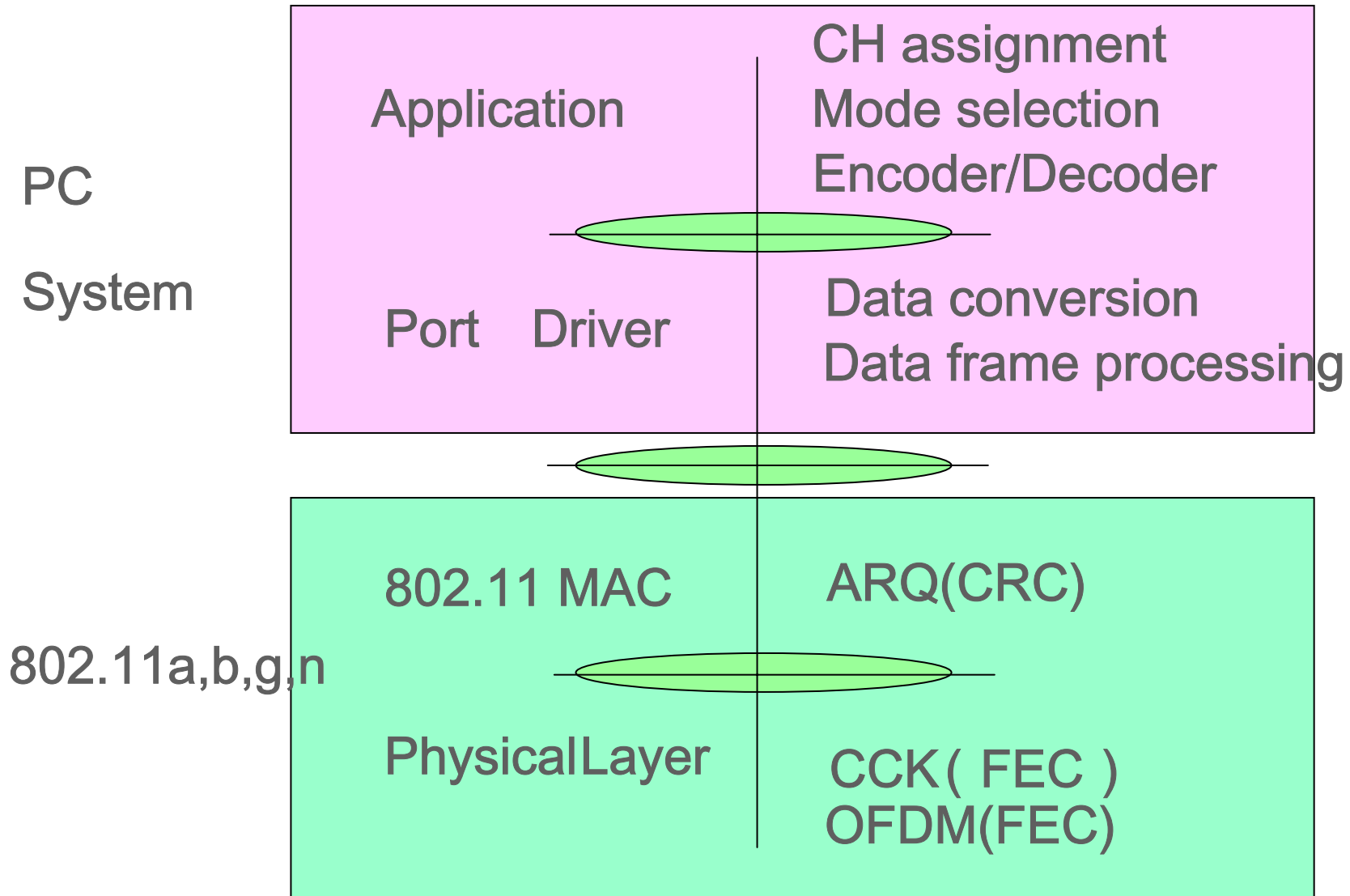
Wireless Standard and Technology



N to M video transmission system



Protocol Configuration



Robust Image Encode/Decoding technology

Robust image encoding and decoding technologies against burst error and high packet loss environments.

- Space localization technology against erroneous picture data
- Time localization technology against erroneous picture data
- Concealment technology against erroneous picture data

Space localization technology

Protection of error propagation in successive coded data following erroneous data.

- Segmentation of video data frame by short slice.
- Reversible Variable Length Coding.

when detecting an erroneous data, decoder reads data from next marker with backward until detecting erroneous data.

- Extended header by re-assignment of significant data of horizontal size, vertical size, picture coding type, etc.

Time localization technology

Protection of error propagation on sequential time by picture prediction algorithm

- Adaptive INTRA refresh

Periodic insertion of intra coding data into motion compensation picture

- GOP structure

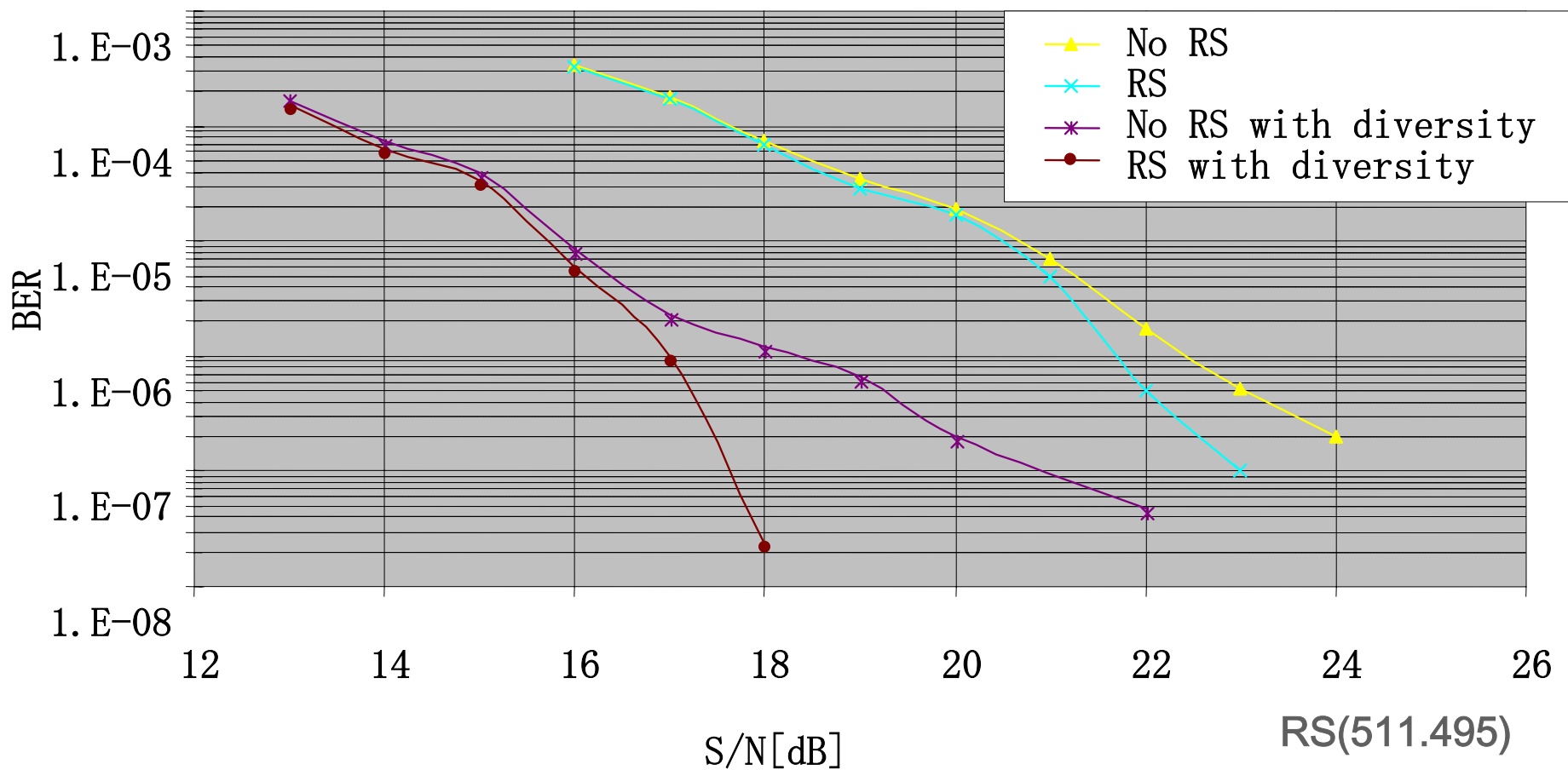
- IBB picture: Not use forward P prediction picture
- Short GOP: Decrease forward prediction picture

Concealment technology for picture data error

Concealment of error picture frame using the decoded picture.

- Reuse the previous picture frame
- Concentration of significant data at the front part of the picture frame

Error correction capability under multi-path fading environment using IEEE802.11b



RS(511,495)

Evanescent wave Spectrum Characteristic

Shield room

