
Multiview Coding using AVC

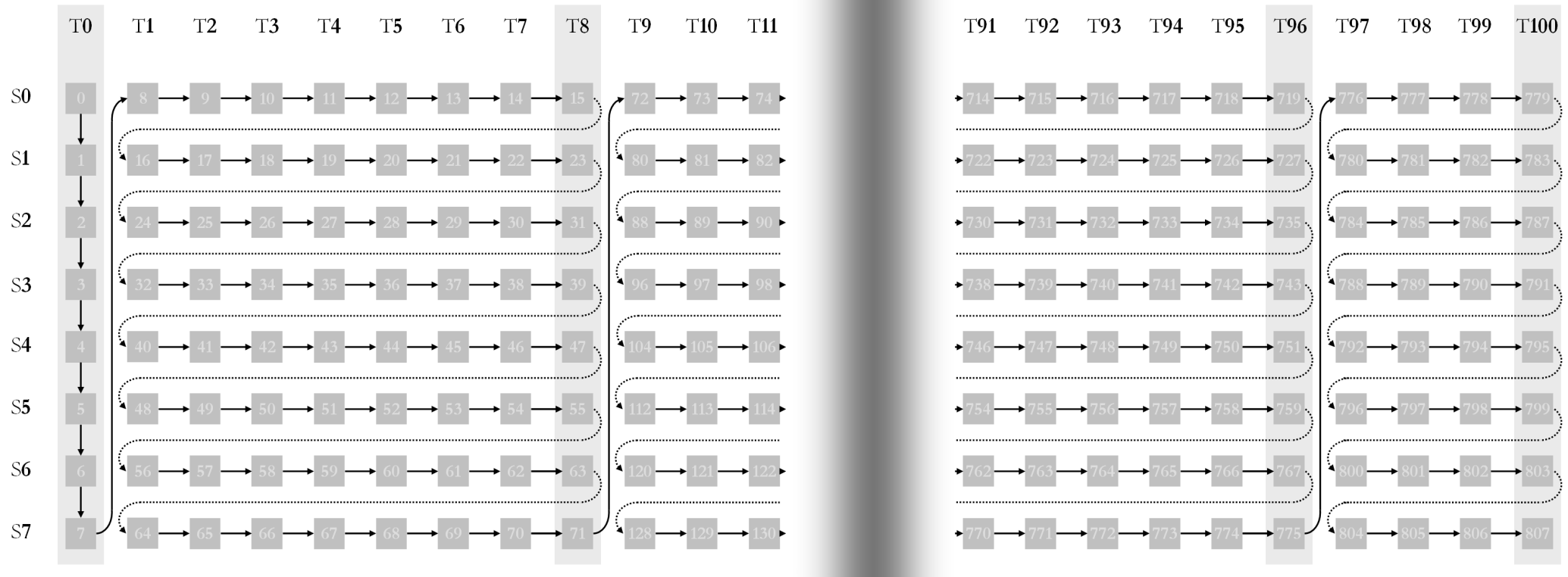
P. Merkle, K. Müller, A. Smolic, T. Wiegand

M12945

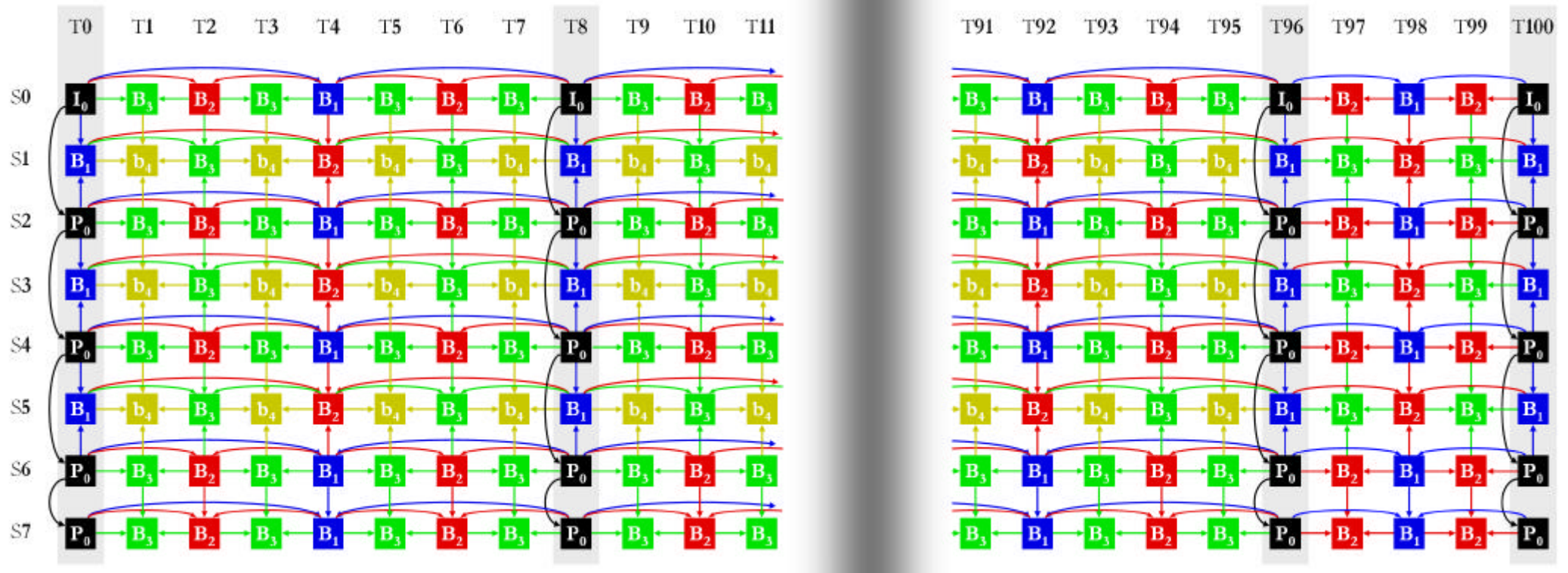
MVC Coding Approach based on H.264

- Usage of hierarchical B-frames in temporal and inter-view direction
- Frame reordering to optimize memory usage

Picture Reordering

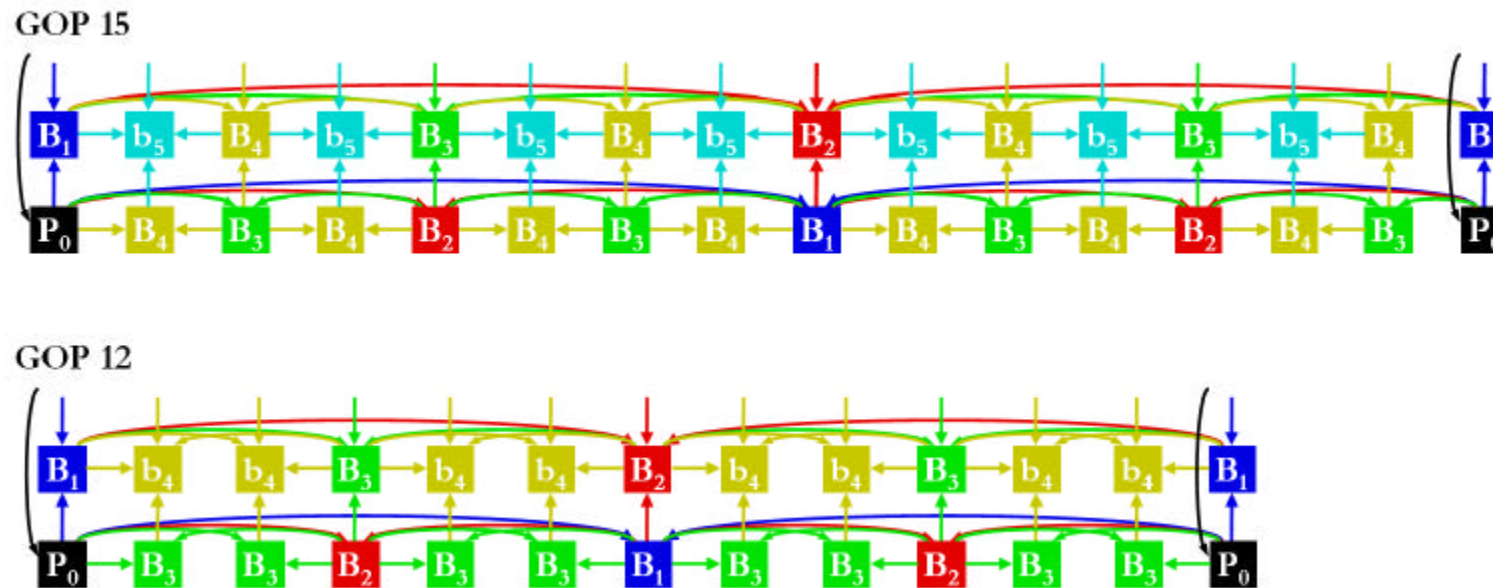


Coding Structure

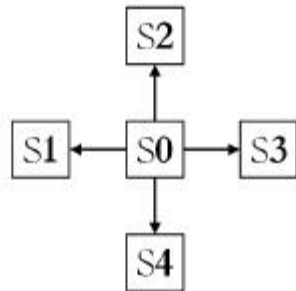
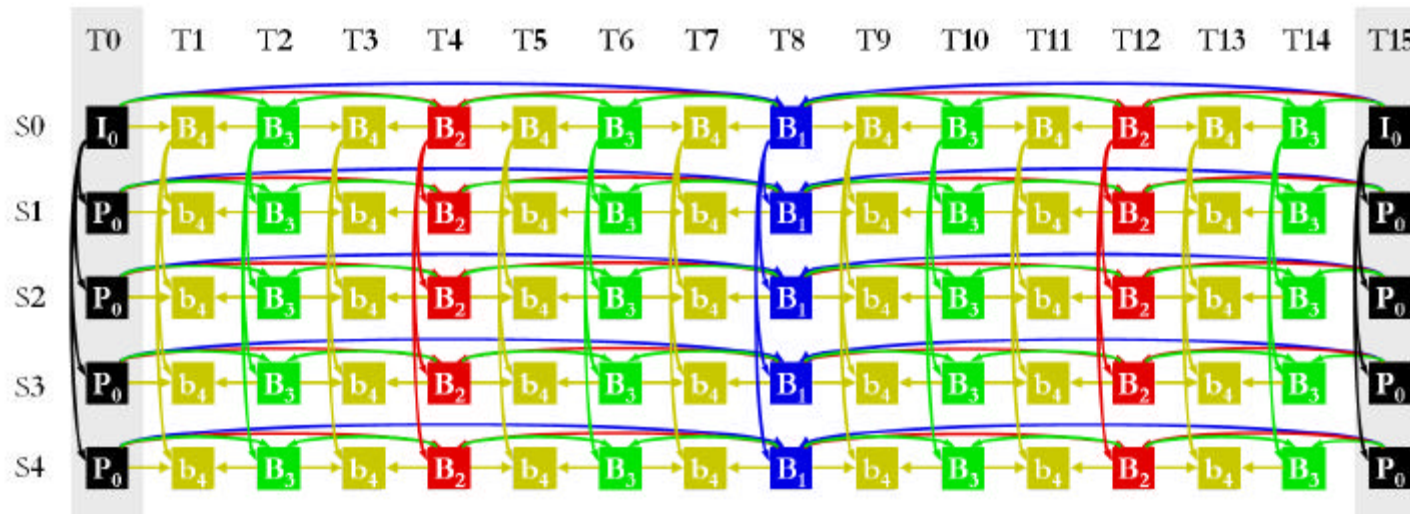


GOP Structure

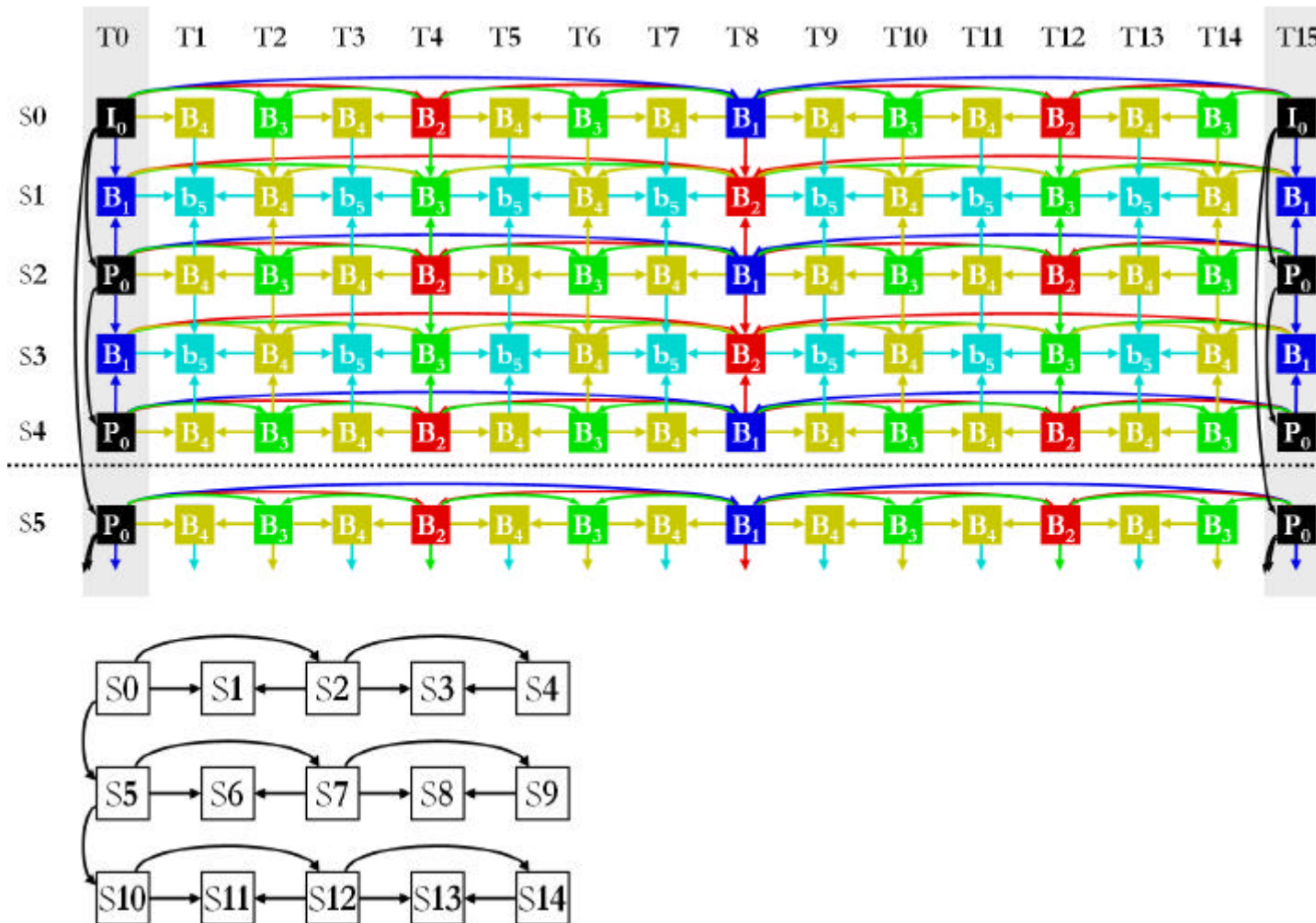
- According to anchor GOPs and creation rules of hierarchical B pictures



Camera Setting Adjustment - Star



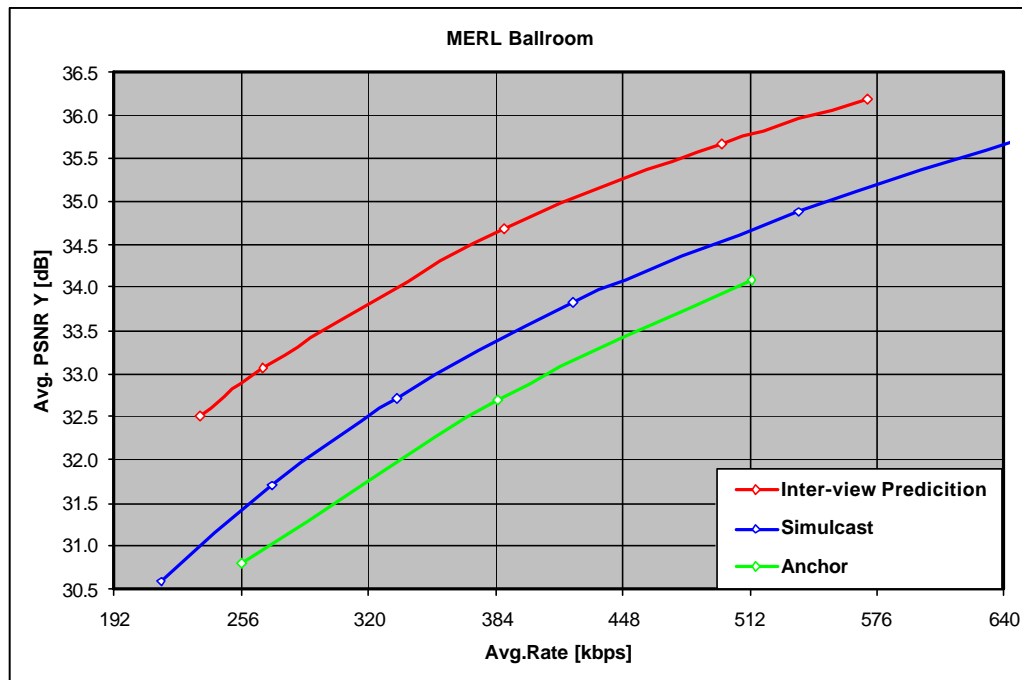
Camera Setting Adjustment – 2D Array



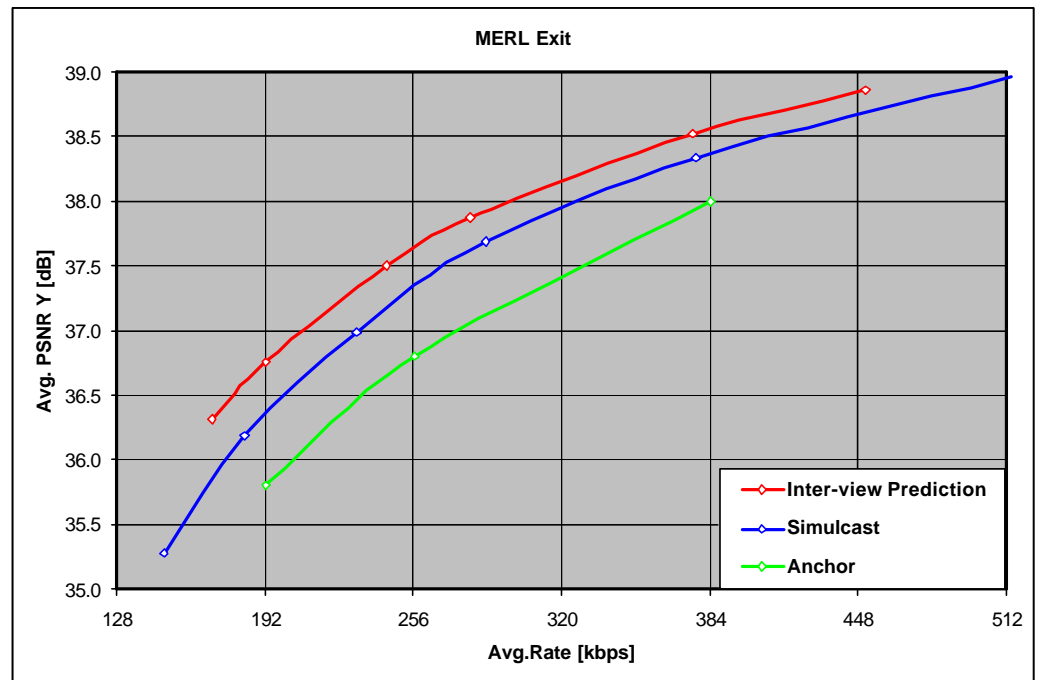
Coding Results

- Coding gain obtained by usage of hierarchical B-frames and by exploitation of inter-view dependencies
- Coding structure allows AVC coder, to select the best inter-view-temporal neighbors within the MVC sequence

Coding Results (2)

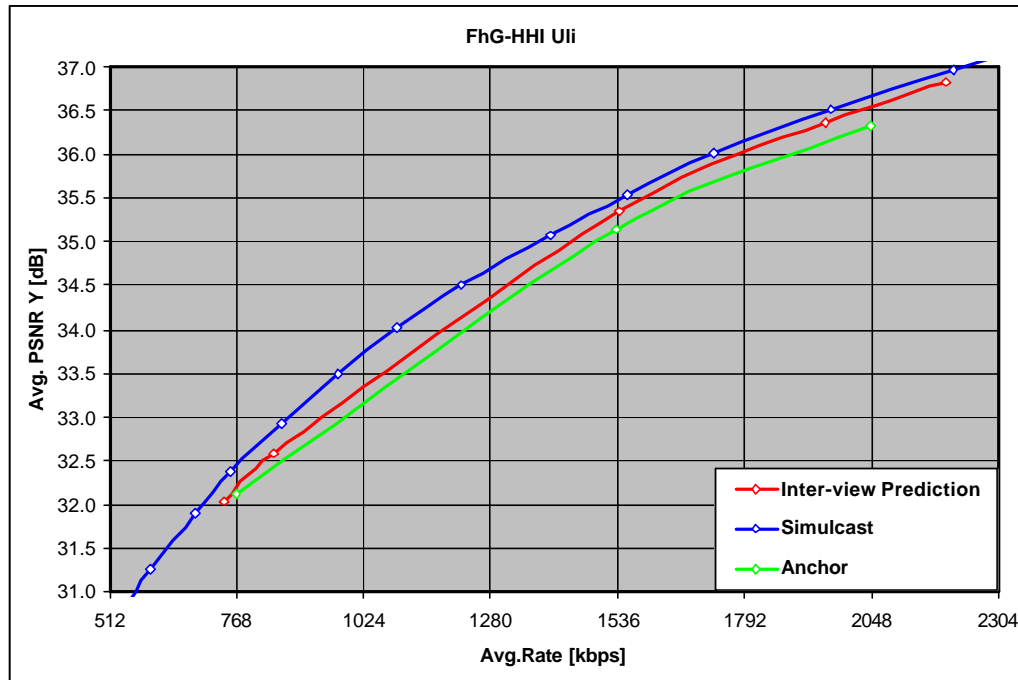


Ballroom

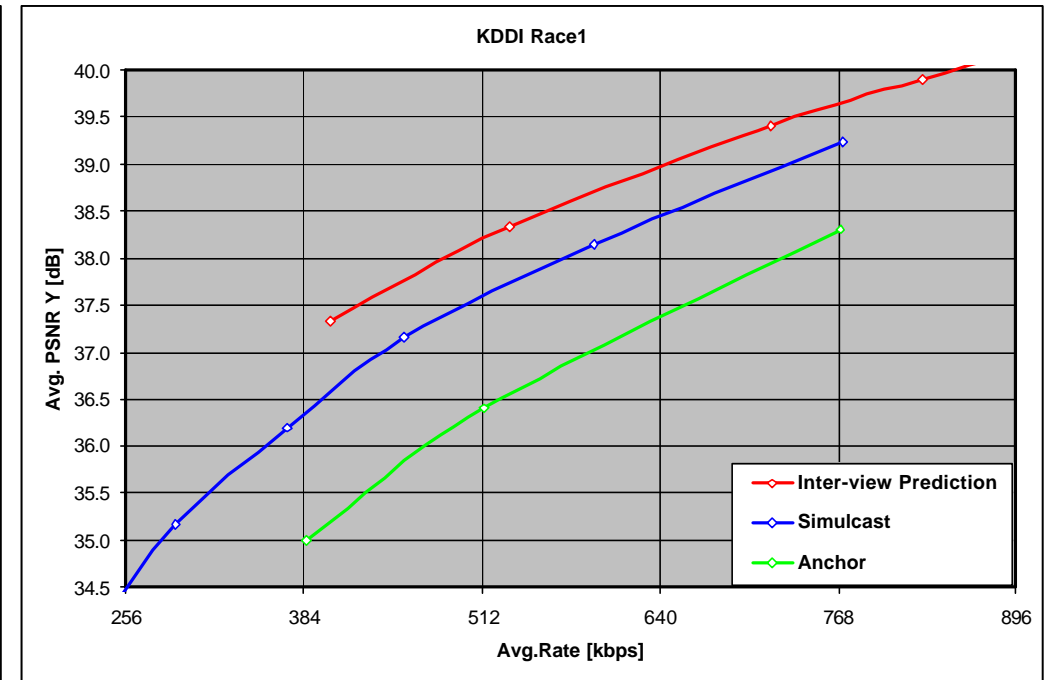


Exit

Coding Results (3)

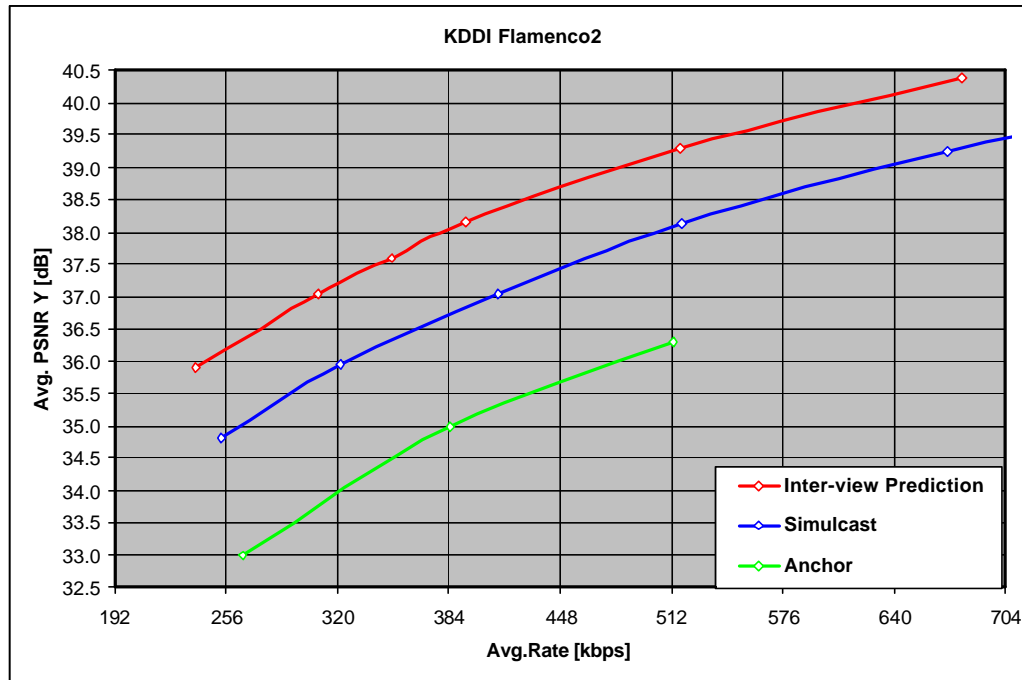


Uli

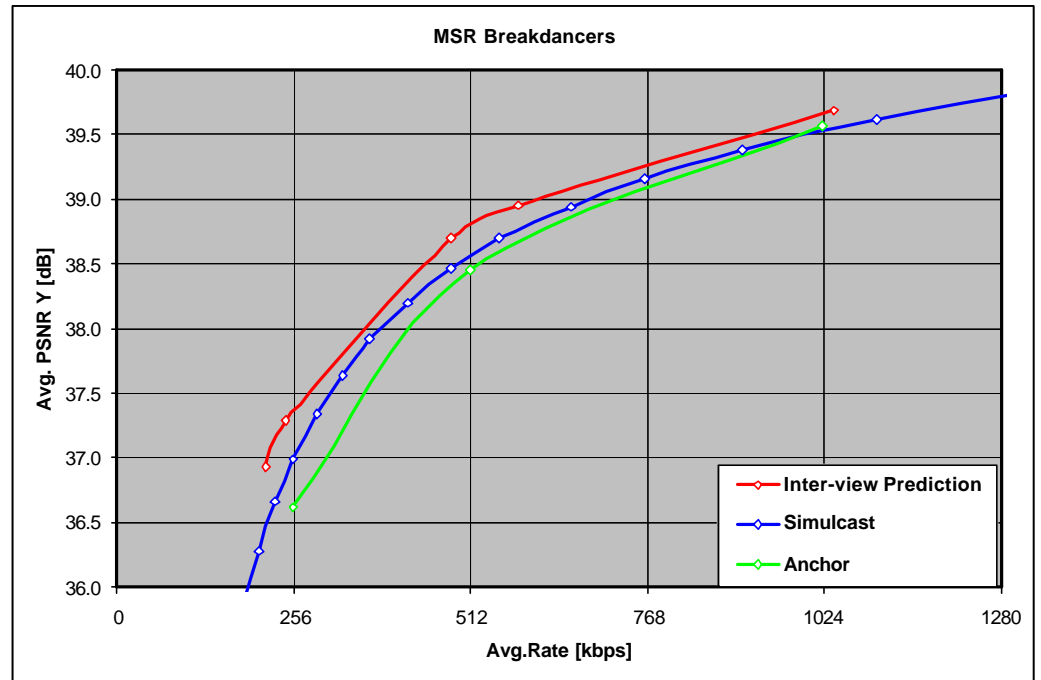


Race1

Coding Results (4)

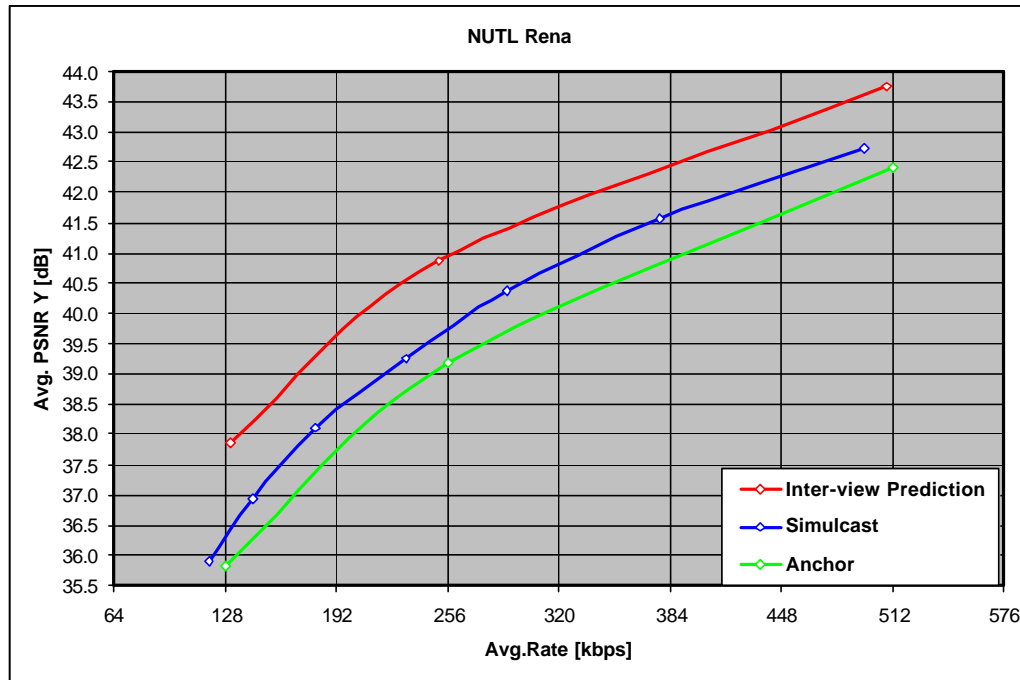


Flamenco2

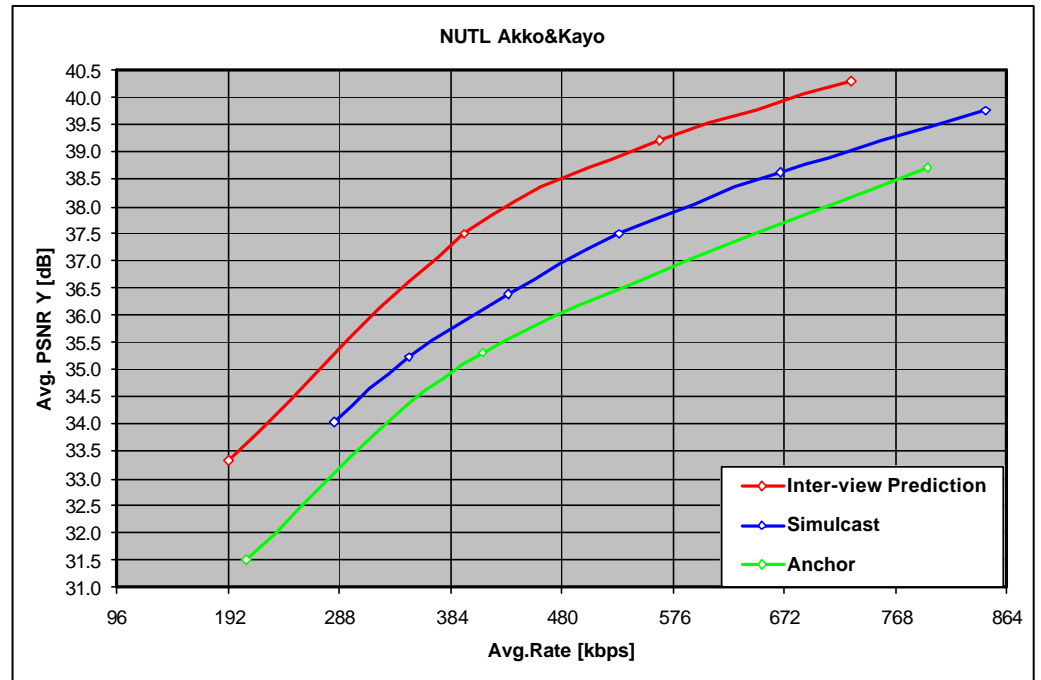


Breakdancers

Coding Results (5)

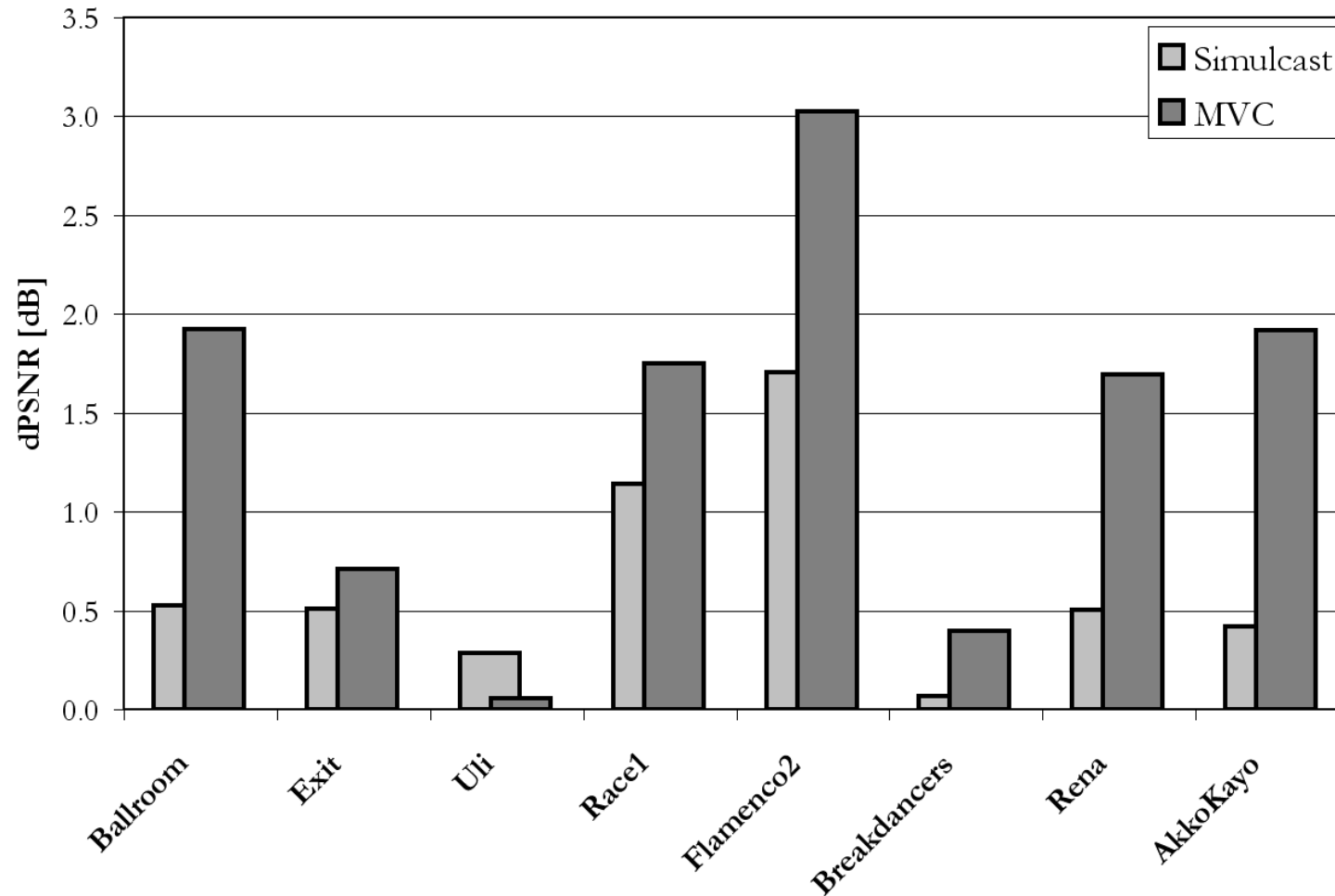


Rena



Akko&Kayo

Coding Results - Summary



Conclusions and Proposal

- Efficient coding of MV data, based on AVC
- Standardized solution
- Two main components for exploitation of MV data statistics:
 - Hierarchical B pictures
 - Sophisticated reference frame selection (Coding Structure)

→ Use the proposed method for MV coding