Light Field Compression Using Disparity-Compensated Lifting
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Introduction

Light Field [Levoy, '96] [Gortler, '96]
• A set of images capturing the appearance of a scene
• For Interactive rendering:
  • photo-realistic effect
  • scene-independent complexity
• Challenges: large data size (~10s of GBs)

Light Field Compression
• To Exploit inter-view and intra-view coherence
• Efficiency – need disparity compensation
• Scalability – use wavelet coding

Proposed Scheme
• Combines disparity compensation with wavelet coding
• Achieves high efficiency with support of full scalability

System Overview

Disparity Compensated Lifting

Results

Conclusions

A novel wavelet-based scheme for light field compression using disparity-compensated lifting
• Support of scalability in all aspects (image-size, view-point, reconstruction-quality)
• Higher compression efficiency and better visual quality than existing techniques.