Compressive Light Field Displays

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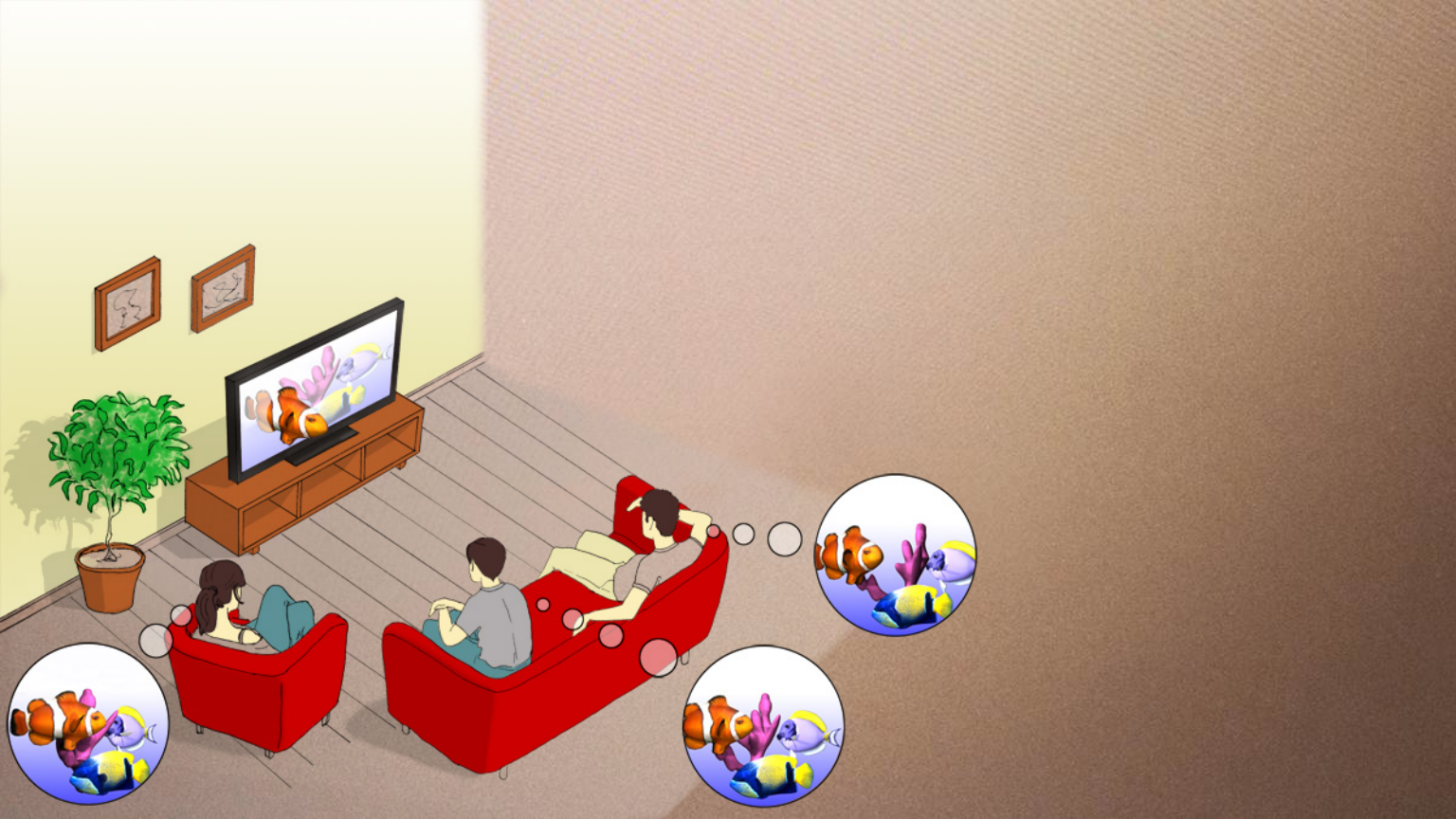
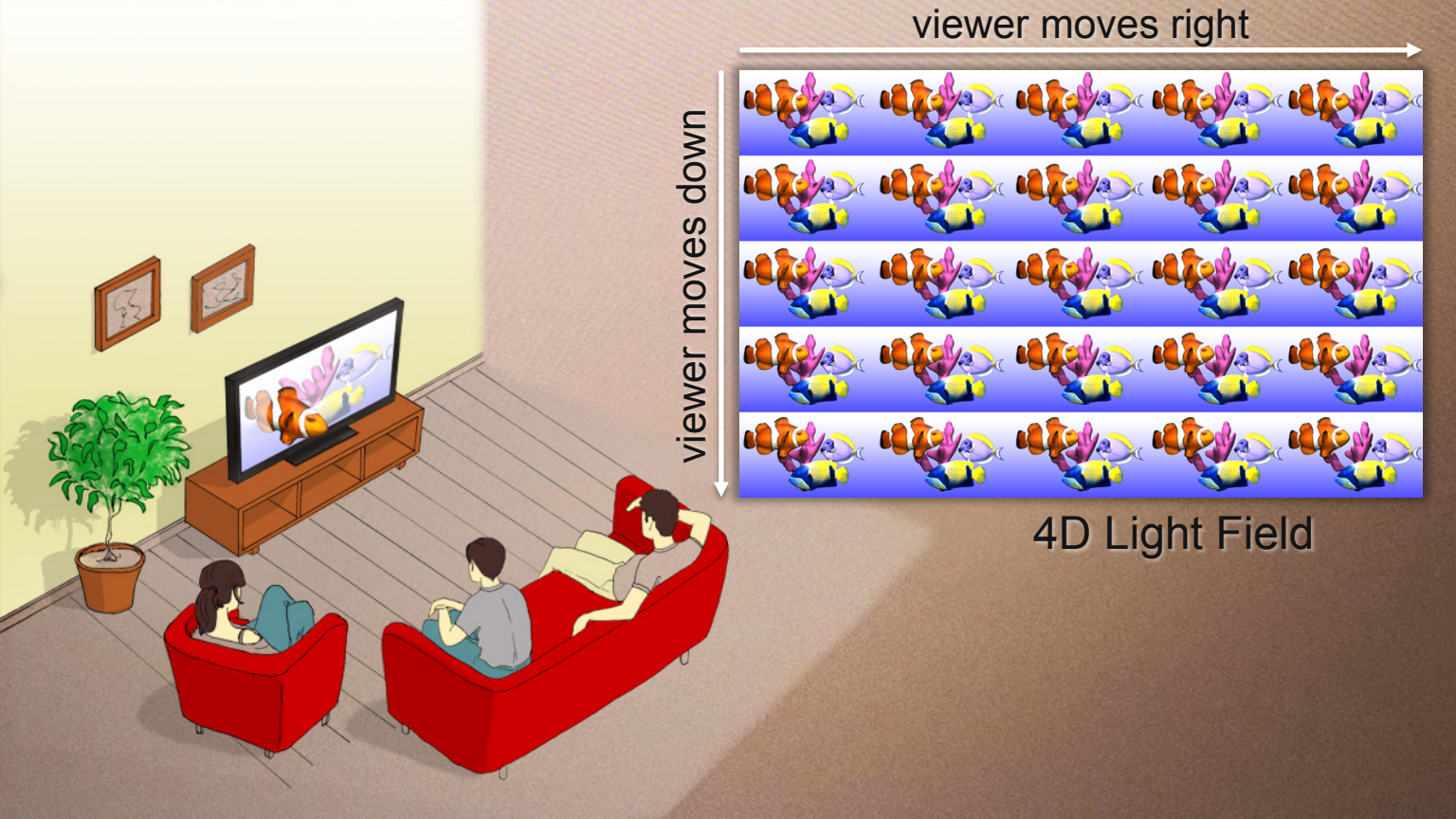
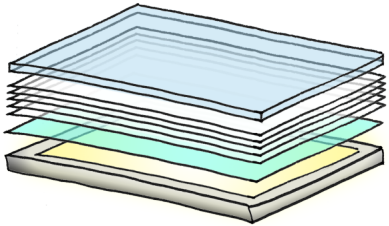


4D Light Field


viewer moves right
viewer moves down
4D Light Field

Compressive Displays



Display Optics

+

Computational Processing

Gigabytes / sec

100x100 HD Views, 60Hz

Bandwidth: **Terabytes / sec**

Display-adaptive Compression

4D Light Field

Computed Tomography

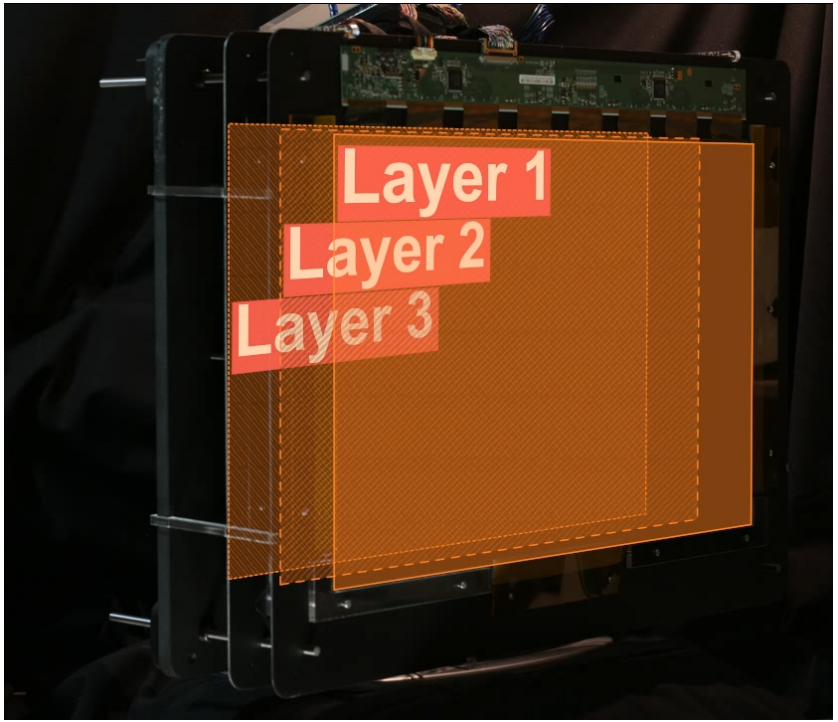
Nonnegative Tensor Factorization

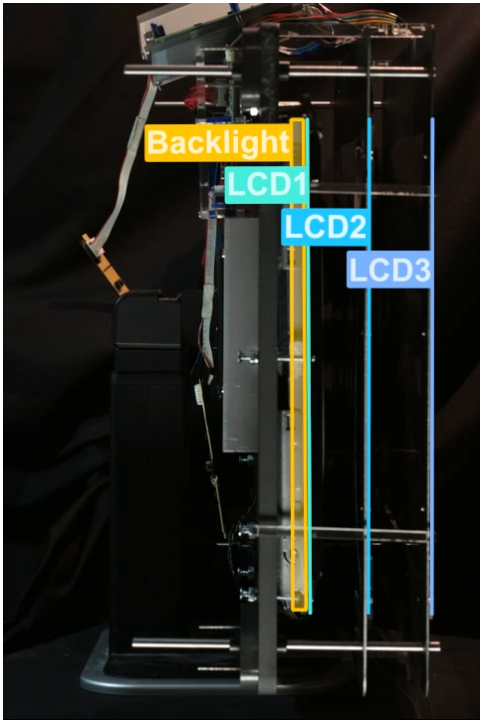
Compressive Optics

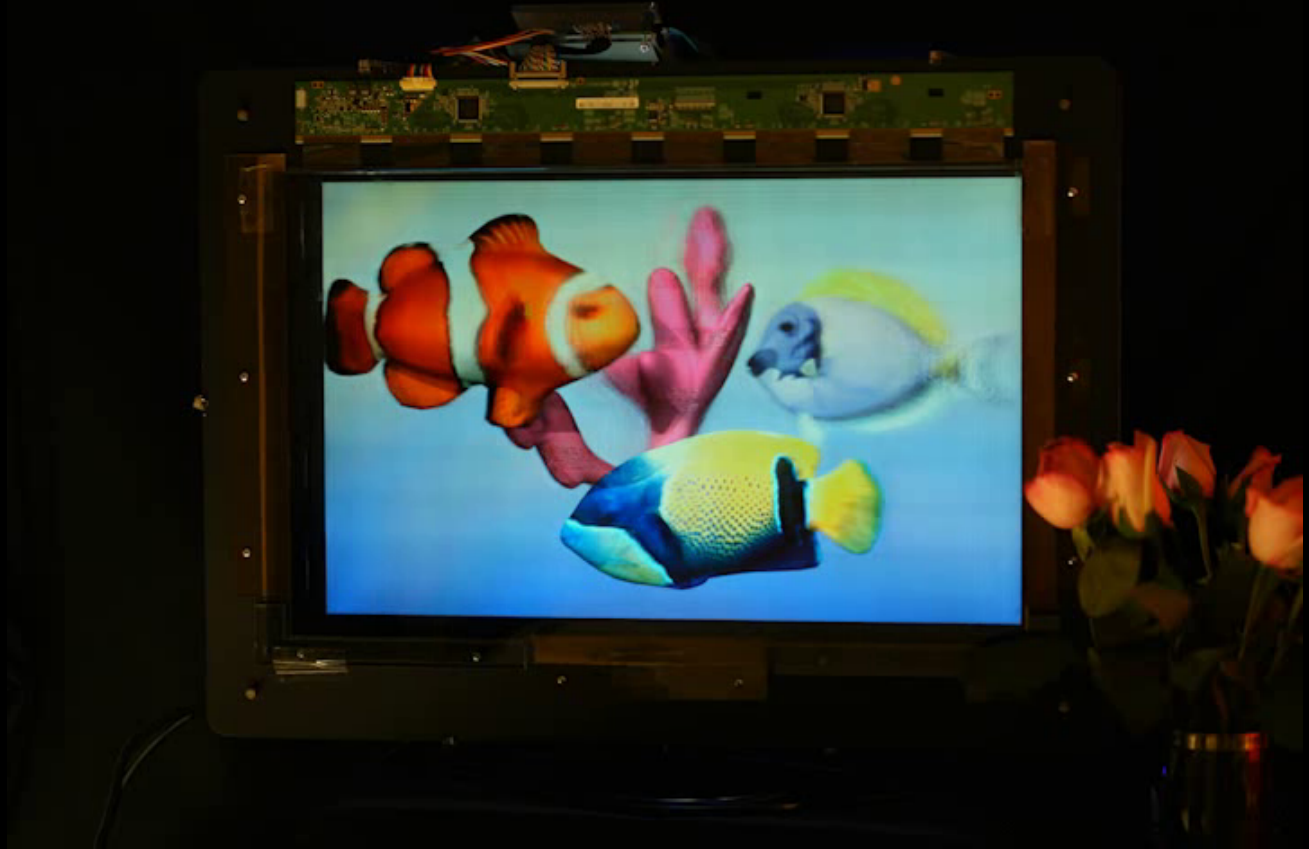
Uniform or Directional Backlight

Stacked Layers (LCDs or Transparencies)

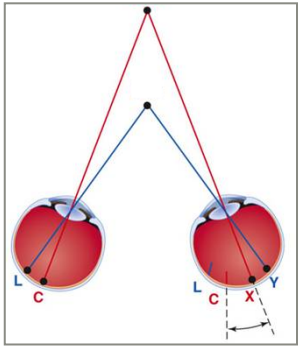
Prototype – Tensor Display, SIGGRAPH 2012

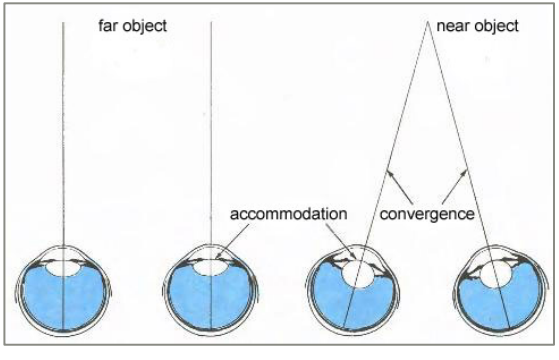


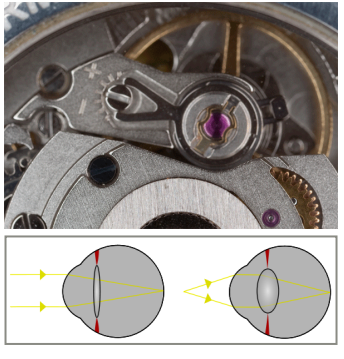




What do we mean by “glasses-free 3D”?







binocular disparity | convergence | motion parallax | accommodation/blur

current glasses-based (stereoscopic) displays

near-term glasses-free (light field) displays

longer-term holographic displays