

Immersive Media Group

- Mission: Quality assessment of immersive media, including virtual reality, augmented reality, stereoscopic 3DTV, multiview...
- Goals: Baseline quality assessment of today's systems
 - Using repurposed traditional content for virtual reality
 - **New content** captured specifically for virtual reality, including 360 cameras and light field cameras
 - **Subjective test methods, presentation requirements, and quality of experience guidelines**
 - Virtual reality gaming
- Technologies:
 - **Light field** processing also called plenoptic (e.g., interactive refocusing, changing point-of-view)
 - Systems **with and without feedback** in response to the viewer's actions: e.g., **360 systems**
 - **Multiview** technologies, including full parallax
 - Displays ranging from small devices to theater screens
- Email reflector: img@vqeg.org



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Presentations

- 360 video

1. “Benchmarking VR Video Quality Assessment”, Zhenzhong CHEN (Wuhan University)
2. “Project Vertigo: monitoring sickness and discomfort in high-motion 360 video”, Pablo Perez (Nokia Bell-Labs)
3. “Subjective evaluation of 360 degree video quality during head movement”, Glenn Van Wallendael (Ghent University - imec)
4. “A dataset of head and eye movements for 360 degree images”, Jesús Gutiérrez (University of Nantes)
5. “360VR User Behavior”, Narciso García (Universidad Politécnica de Madrid)
6. “QoE of Omnidirectional (360°) Videos”, Ashutosh Singla (Audiovisual Technology Group, TU Ilmenau)

- Free viewpoint video

1. “3 datasets for quality assessment in the context of Free Viewpoint Video”, Suiyi Ling (University of Nantes)

- Light fields

1. “Characterization and selection of light field content for perceptual assessment”, Jesús Gutiérrez (University of Nantes)

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Discussion: future direction

- 360 systems:
 - Guidelines for subjective assessment → Methodology
 - Presentation requirements: Viewing duration?
 - What to measure? How to measure? E.g. Discomfort, SSQ? → **Engagement**
 - Objective metrics: Which to use? How to weight them? → **Identify ground truth**
 - Datasets and tools
 - **Define use cases → Identifying degradations** to take into account (e.g., capture artifacts)
- Virtual reality, mixed reality, augmented reality.
- Light field technologies, Free Viewpoint Video.