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**CODING OF MOVING PICTURES AND AUDIO**

**ISO/IEC JTC1/SC29/WG11 MPEG2016/N16731**

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| **Status** | Approved |
| **Title** | MPEG-I visual test material summary |
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# Introduction

This document summarizes updated test materials which can be used for MPEG-I phase 2 explorations.

# Test material

Currently four type of test material are available: Dense 1D without the depth, Sparse 1D with depth, Full parallax, 360 convergent multicamera and 360 divergent multicamera. Test materials for each of them are listed below.

## Dense 1D without the depth

Table 1 lists available dense 1D test sequences without depth data included. Inter-view distance of Champagne Tower2 is 2.5cm. Inter-view distance of Champagne Tower is 5cm. Champagne Tower2 provides smoother motion parallax for the subjective test than Champagne Tower.

Table 1. Available dense 1D test sequences without the depth data.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | Source | Seq. Name | Number of Views | Resolution (pel) | Frame rate (fps) | Length | Cam Arrangement (1D parallel, 1D arc,) | condition to use (if any) | URL of sequence (ID, PW) |
| 1 | Nagoya University  Modified by NICT | Champagne Tower2 | 80 | 1280 x 960 | 29.4114 | 10 sec 300 frames | linear  1D parallel | See M15378, M38977 and provider webpage | <http://www.fujii.nuee.nagoya-u.ac.jp/NICT/Champ2.htm>  no password required |
| 2 | Nagoya University | Champagne Tower | 80 | 1280 x 960 | 29.4114 | 10 sec 300 frames | linear  1D parallel | See M15378 and provider webpage | <http://fujii.nuee.nagoya-u.ac.jp/multiview-data/>  no password required |
| 3 | Nagoya University | Pantomime | 80 | 1280 x 960 | 29.4114 | 10 sec 300 frames | linear  1D parallel | See M15378  and provider webpage | <http://fujii.nuee.nagoya-u.ac.jp/multiview-data/>  no password required |
| 4 | Holografika | Big Buck Bunny flowers, Arc | 91 | 1280x768 | 24 | 5 sec  121 frames | 45 degree arc convergent | See M36500 | http://mpeg3dvideo.holografika.com/BigBuckBunny\_Flowers/Arc/  Login: mpegftv  Password: lf3dvideo |
| 5 | Holografika | Big Buck Bunny butterfly, Arc | 91 | 1280x768 | 24 | 5 sec  120 frames | 45 degree arc convergent | See M36500 | http://mpeg3dvideo.holografika.com/BigBuckBunny\_Butterfly/Arc/  Login: mpegftv  Password: lf3dvideo |

## Sparse 1D with depth

Table 2 lists available sparse 1D test sequences with the depth data included.

Table 2. Available sparse test sequences with the depth data.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | Source | Seq. Name | Number of Views | Resolution (pel) | Frame rate (fps) | Length | Camera Arrangement | Depth Data Available | URL of sequence (ID, PW) |
| 1 | U Hasselt | Soccer-Linear 2 | 8 | 1392x1136 | 60 | 10 sec 600 frames | 1D parallel | Yes | <ftp://mpegvideo@wg11.sc29.org:2121/FTV_AhG_CfE/>  Login: mpegvideo  Password: zuAx9Hg\_#7kRq2K |
| 2 | Poznan University of Technology | Poznan Blocks2 | 10 | 1920x1080 | 25 | 10 sec 250 frames | 100 deg. Arc around the scene | Yes | <ftp://ftv@multimedia.edu.pl/PoznanBlocks2/>  Login: ftv  Password: ftvftv |
| 3 | Poznan University of Technology | Poznan Fencing2 | 10 | 1920x1080 | 25 | 10 sec 250 frames | 100 deg. Arc around the scene | Yes | <ftp://ftv@multimedia.edu.pl/PoznanFencing2/>  Login: ftv  Password: ftvftv |
| 4 | Holografika | Big Buck Bunny  Flowers  noBlur | 91 | 1280x768 | 24 | 5 sec  121 frames | 45 deg, arc | Yes, ground truth depth | <http://mpeg3dvideo.holografika.com/BigBuckBunny_Flowers_noblur/Arc/>  Login: mpegftv  Password: lf3dvideo |
| 5 | Nagoya University | Soccer Arc | 12 | 1920x1080 | 30 | 10 sec  300 frames | 180 deg. Arc | No | <http://fujii.nuee.nagoya-u.ac.jp/multiview-data/>  Login: FN  Passpword: cHt\_SG#z4g%7ky |
| 6 | Nagoya University | Soccer Goal Side | 10 | 1920x1080 | 30 | 10 sec  300 frames | Arc | No | <http://fujii.nuee.nagoya-u.ac.jp/multiview-data/>  No ID/Password required. |
| 7 | Nagoya University | Soccer Goal Side | 10 | 1920x1080 | 30 | 10 sec  300 frames | Linear | No | <http://fujii.nuee.nagoya-u.ac.jp/multiview-data/>  No ID/Password required. |

## Full parallax

Table 3 lists available test sequence with full parallax

Table 3. Available test sequences with the full parallax.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | Source | Seq. Name | Number of Views | Resolution (pel) | Frame rate (fps) | Length | Camera Arrangement | Depth Data Available | URL of sequence (ID, PW) |
| 1 | Ostendo | Burger delivered at Light-Field Speed | 1280x720  (number of lens) | 40x40  (pel/lens)  RGBA x8bit | 30 | 300 frames | 2D parallel | Yes  32bit float | <http://157.159.160.118/m1st> Username: sc29wg11  1st Password : MPEG password  2nd Username: mpegcontent  2nd Password: gEpM93#\_k0sanEE3!  Location: /mpegcontent/content/Explorations/FTV /Ostendo2DSMV\_Movie |
| 2 | Technicolor  m40010 | TechnicolorPainter | 4 x 4 | 2048x1088 | 30 | 360 frames | 2D parallel  70mm spacing | No | <http://157.159.160.118/mpegcontent> Username: sc29wg11  1st Password : MPEG password  2nd Username: mpegcontent  2nd Password: gEpM93#\_k0sanEE3!  Location: /mpegcontent/content/MPEG-I/Visual\_Test\_Data/Technicolor/TechniColorPainter |
|  | Fraunhofer IIS  m39896 | Bar | 5x3 |  |  | 200 | 2D parallel  120mm x 75mm | No | TBD |
|  | Table Soccer | 5x3 |  |  | 281 | 2D parallel  120mm x 75mm | No |
|  | Chess Players | 5x3 |  |  | 250 | 2D parallel  120mm x 75mm | No |
|  | News Speaker | 4x4 |  |  | 150 |  | No |
|  | Beergarden | 3x3 |  |  | 398 |  | No |
| 3 | Lytro  m40012 | TBD | TBD | TBD | 120 | 1200 frame | TBD | Yes | TBD |
| 2 | Université Libre de Bruxelles  m39847 | TBD | TDB | Nikon D5200 RGB, 6000x4000 pixels  Kinect2 RGB, 1920x1080 |  | Still image | 2D parallel  1cm spacing | Yes  Kinect2 Depth sensing, 512x424 pixels  SoftKinetic DS326 Depth sensing, 320x240 pixels  UNI-T UT 390B Laser ranger, 1 point with +- 1mm depth accuracy per position | TBD |
| 3 | Fraunhofer IIS  m39896 | TableTop I | 101 x 21 | 7952 x 5304  3976x2652 ?? |  | Still image | 2D parallel  4mm by 6mm spacing | No | TBD |
| 4 | Table in the garden |
| 5 | Books and charts |
| 6 | Plants |
| 7 | TableTop II |
| 8 | Lego City |
| 9 | TableTop III |
| 10 | Lightfield production |
| 11 | Workshop |
| 12 | Poznan University of Technoogy  m36566 | Poznan Laboratory 1 | 31×31 |  |  | Still Image | 2D parallel  10mm spacing | No | ftp://multimedia.edu.pl/ftv  User credential will be provided upon request |
| 13 | Poznan Laboratory 1 | 20×20 |  |  |
| 14 | Poznan Cones 1 | 30×30 |  |  |
| 15 | Poznan Cones 2 | 30×24 |  |  |
| 16 | Poznan Bicycles 1 | 35×30 |  |  |
| 17 | Poznan Bicycles 2 | 35×32 |  |  |
| 18 | OTOY | Charlie Lab |  | 1600 x 1600  RGB HDR |  | Still Image | 2D parallel  10mm spacing | No |  |

## 360 convergent multicamera

Table 4 lists available 360 convergent test sequence.

Table 4. Available 360 convergent test sequences

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | Source | Seq. Name | Number of Views | Resolution (pel) | Frame rate (fps) | Length | Camera Arrangement | Depth Data Available | URL of sequence (ID, PW) |
| 1 | OTOY | OTOY Office | 72 x 24 views | 4096 x 4096 RGBA 16-bit |  | Still Image | Spherical  5 cm x 5 cm spacing, 5 degrees apart | No | TBD |
| 2 | Skylar | TBD |  |  | 360 |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

## 360 divergent multicamera

Table 3 lists available test sequences for 360 degree 3D VR scenario.

Table 3. Recommended test sequence for 360deg. 3D VR scenario.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | No. | Provider's Name | Seq. Name | Number of Views | Resolution (pel) | Frame rate (fps) | Length | Cam Arrangement  Or  format | Ground Truth Depth Available | Depth Data Avaiable | Contents | URL of sequence (ID, PW) |
| Multi-view videos | 1 | ETRI | Dancing360 | 10 | 2032x2704 | 30 | 10 sec  300 frames | Divergent | No | No | Natural 3D scene for dancing performance | [http://157.159.160.118/mpegcontent/](http://157.159.160.118/mpegcontent/ws-mpegcontent/content/Explorations/360VR)  Access: MPEG meeting ID, pass word  Move to: ws-mpegcontent/content/Explorations/360VR,  Login: mpegcontent  Password: gEpM93#\_k0sanEE3! |
| 2 | ETRI | Driving360 | 10 | 2032x2704 | 30 | 10 sec  300 frames | Divergent | No | No | Natural 3D scene for driving |
| 3 | ETRI | Soccer360 | 10 | 1440x1920 | 60 | 10 sec 600 frames | Divergent | No | No | Natural 3D scene for soccer game |
| Stitched videos | 4 | ETRI | Stitched\_Dacing | 2 | 4096x2048 | 30 | 10 sec  300 frames | Equirectangular | No | No | Natural 3D scene |
| 5 | ETRI | Stiched\_Driving | 2 | 4096x2048 | 30 | 10 sec  300 frames | Equirectangular | No | No | Natural 3D scene |

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