Abstract

This work develops a real-time 2D-to-3D converter that exploits motion parallax naturally available in a normal 2D moving image sequence to produce a 3D side-by-side motion picture suitable for viewing on low-cost 3D Television displays at conversion processing rates that can reach high speeds of up to 100 frames per second. The novel paradigm presented in this paper enhances 3D perceptibility by ensuring continuous synchronization between the left and the right image views even if motion in the 2D video abruptly freezes or transitions rapidly, with a minor single frame initial 2D broadcast, equivalent to an initial 2D delay of 1/30 of a second for a 30 frames per second video stream, before full 3D takes effect, and neither depends on computationally expensive depth map extraction nor does it require any special hardware setup such as multicore processors or special purpose graphics processing units.

References

- B. Sandrew, "2D-3D conversion can be better than native 3D," http://www.3dfocus.co.uk/3d-features/2d-3d-conversioninterview-legend-3d-barry-sandrew/1394, January 2011.


Index Terms

Computer Science Multimedia

Keywords

2D-3D Converter Motion Parallax 3DTV Stereo Vision.