World's Highest-Resolution Projector

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If one were to stack 16 of the world's best high-definition projectors side-by-side (and on top of each other), the combined image projected would contain 33 megapixels. This is the resolution achieved by the world's highest-resolution projector, soon to be unveiled by the company Evans & Sutherland (E&S) of Salt Lake City, Utah.

Most projectors contain two-dimensional arrays of pixels, tic-tac-toe arrangements of tiny microelectromechanical systems (MEMS) devices that each light up with a particular color. Because fabricating 33 million of these devices is a tricky endeavor, the E&S projector only uses a single column of 4,000 pixels, powered by a beam of laser light. This rapidly-changing vertical stripe of colors is swept across a screen faster than the eye can see, so spectators see the illusion of a projected 2-D image.

To create this projector, twice the resolution of any that currently exists, the company had to develop powerful fiber lasers. These lasers, discussed in Forrest Williams' talk at the 2009 CLEO/IQEC conference, may have uses for other projects, such as making anti-counterfeit identifiers or projecting artificial stars into the night sky that can be used to calibrate astronomical instruments.

The projector, which creates a 2:1 image twice as wide as it is high, will be marketed to planetariums, simulations, and training companies that currently wire multiple projectors together to display large images.

The 2009 Conference on Lasers and Electro-Optics/International

Quantum Electronics Conference (CLEO/IQEC) runs from May 31 to June 5 at the Baltimore Convention Center in Baltimore.

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