Head Mounted Display with 120° Field of View

Advantages
- Offers a wider field of view than existing technologies

Invention
Using reflective image projection, a three panel screen is worn in front of the eyes which provide a binocular center tile as well as right and left peripheral projection tiles to achieve more than 120 degrees of viewing angle, with resolution better than 2 arc minutes [U.S. Patent 7,119,965]

Background
As a predatory species, humans have front-set eyes which allow them to gauge distances through binocular vision. Peripheral vision with its capability for detecting motion over an almost 180 degree field of view is equally important. Thus when researchers have to create designs for an augmented reality, head mounted display device, they must provide a field of view as wide as possible, to achieve a realistic experience. Now that the markets for head mounted displays (HMD) are opening with applications to medical imaging, vehicular training and video games, just to name a few, researchers at UCF have developed a method to open a field of view more than 120° in an HMD.

Application
This technology is applicable to any virtual or augmented reality system for military training, medical imaging or even visual computer interface devices.

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