

In this reality-enhanced autostereoscopic 3D workbench, viewers without special glasses can perceive 3D images within their reach with little sense of incongruity. A real image is presented in the middle of the

workspace; artificial parallax is narrowed to display 3D objects without interfering with normal motion. Viewers can manipulate virtual objects in the 3D workspace directly, with their own hands.

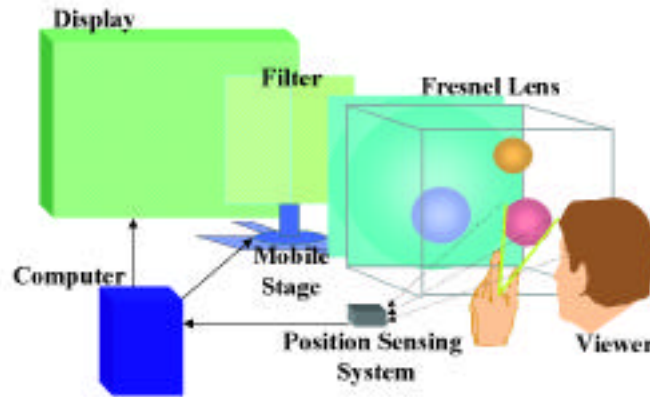


Figure 1: Sketch of the autostereoscopic 3D workbench system.

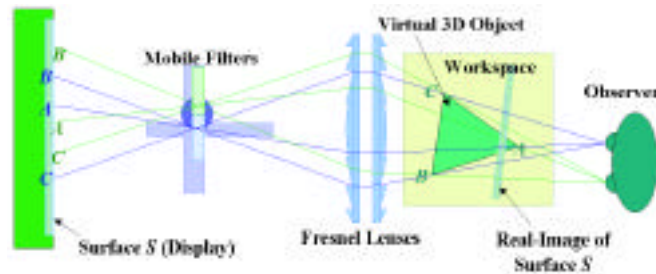


Figure 2: Optics of autostereoscopic display. To display virtual object ABC, blue ABC and green ABC are shown in the background, so each ABC can be seen only by the right or left eye, respectively.

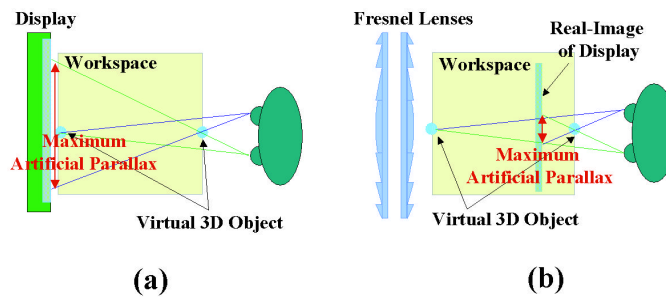


Figure 3: Comparison of conventional 3D display and the autostereoscopic 3D display. In our display, a real image of the display is generated in the middle of the workspace and the artificial parallax required to present virtual 3D objects in the workspace is reduced, which leads to less eyestrain and more realistic 3D perception.

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