VFIVE: development of visualization software for CAVE

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The output data produced by computer simulations for geoscience are getting larger and more complex, with the increasing performance of computers. As a result, it is becoming difficult to understand the three-dimensional structures of them by graphic workstation and commercially available software. Therefore, recently Virtual Reality technology, especially CAVE system, is often used to visualize the data by geoscientists. We have been developing an interactive visualization software for the CAVE for several years. It is called VFIVE. This software is equipped with basic visualization methods such as isosurface and volume rendering.

There is a kind of limitation for visualization using CAVE. The CAVE need to refresh the images on screens all the time to keep 'realities', so it cannot draw a large set of polygons. Therefore, it cannot visualize large data.

To analyze large data without decimation or extraction or other pre-processing, we have developed 'magnifying glass' function which visualizes only the chosen area of data with high resolution.

We report VFIVE and this newly attached function.