



Fig. (8). Electromagnetic frequency device with volume rendering renderings situation.

In order to verify and test the proposed rendering algorithm of ray casting based on the earth sphere shell space grid model. The experimental data were three-dimensional electromagnetic momentum body data of 400 km * 200 km * 800m, data formats are 32 floating-point number. Electromagnetic frequency device with volume rendering renderings situation is shown in Fig. (8).

6. CONCLUSION

With the development of visualization in scientific computing and the virtual reality technology, the visualization technology is gradually penetrating to each subject. It has a broad application prospect, and the visualization of electromagnetic signal strength has become an important application field.

In this paper, we use Marching Cubes isosurface algorithm, Multi-Isosurfaces algorithm and ray casting algorithms based on GPU to achieve the 3D visualization of electromagnetic signal strength, meanwhile, we add the 3D visualization of electromagnetic field to the battlefield scene, achieve real-time interactive of the battlefield electromagnetic distribution. At present, many domestic and foreign scholars put forward many methods of large quantities of data volume rendering, the next step, we should integrate these methods and the real battlefield scene, so that we can achieve better results for the visualization of electromagnetic signal strength.

CONFLICT OF INTEREST

The authors confirm that this article content has no conflict of interest.

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