

Japan Geoscience Union Meeting 2011

(May 22-27 2011 at Makuhari, Chiba, Japan)

©2011. Japan Geoscience Union. All Rights Reserved.



MGI031-08

Room:201A

Time:May 25 15:00-15:15

Development of Volume Visualization Software of 3-D Simulation Data for Google Earth

Shintaro Kawahara^{1*}, Takeshi Sugimura¹, Fumiaki Araki¹, Keiko Takahashi¹

¹JAMSTEC

We are promoting a project "EXTRAWING" to effectively express geophysical and environmental fluid simulation data using the Google Earth technology, and to send this information to the general public. Results of this project have already been exposed as a Web application. In this application, users can freely observe the visualization results of simulation data using Google Earth API. Users can also view plain descriptions about the visualization result on Web browser.

In the presentation, we will describe the visualization technique is used in this project. In this project, volume rendering method using layered color contour images is used as one of the methods to express the visualization results of simulation data to represent on Google Earth. To represent visualization results by this method on Google Earth, the file format must be KML and COLLADA. However, when converting simulation data into KML/COLLADA, it is necessary to determine various parameters (transfer function, numbers of color contour images, and so on), and it requires much skill. Therefore, we developed a GUI-based content creation software. By using this software, it becomes easy to determine various visualization parameters, and we aimed to streamline content creation for Web application. In the presentation, we will do a demonstration of content creation using developed software, and introduce its technical content.

Keywords: Volume visualization, Google Earth, EXTRAWING