Geophysical Research Abstracts,
Vol. 10, EGU2008-A-04864, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-04864
EGU General Assembly 2008

Interactive Visualization of 3-D Mantle Convection with Handheld Devices

J. Greensky , Dave Yuen, M. Knox, M.L.F.H . Lyness, (University of Minnesota), M. Charley Kameyama (Ehime University) Steve Chen (Graduate Univ. of CAS), M.R. Damon (NASA) W. Czech (AGH, Krakow)

(1) Dept. of Geology and Geophysics (2) University of Minnesota { daveyuen@gmail.com)

The onslaught of data tsunami from large-scale numerical simulations has forced us to develop a new paradigm for computing and real-time visualization. This philosophy calls for interactivity for a couple of hours at a time at the expense of storing data on many disk drives.We have already carried out successfully real-time volume-rendering visualization by employing hundreds of processors for a grid with over 20 million unknowns. The visualization was viewed on a large display device, with around 13 million pixels. We plan to employ a hierarchical rendering service, whereby by having Ajax implemented it can act at the same time as (1.) a web server ,(2.) a GUI (graphics user interface)and (3.) other specialized devices, such as Skype, iPhone or Nokia-N810. The software is written in Java , which will enhance the portability for many types of devices. This mode of operation is already successful for the OQO device (http://www.oqo.com) Our goal is to expand the array of interactive devices, which will make feasible to carry out ubiquitous computing . of large-scale simulations.