Cite abstracts as **Author(s) (2004), Title, *Eos Trans. AGU, 85*(47), Fall Meet. Suppl., Abstract xxxxx-xx**

Your query was: **"SF13A-0702"**

The selected databases contain **one** document matching your query:

HR: 1340h
AN: **SF13A-0702**
TI: **Distributed volume rendering of global models of seismic wave propagation**
AU: *** Schwarz, N**
EM: *schwarz@evl.uic.edu*
AF: *Electronic Visualization Laboratory, University of Illinois at Chicago, MC 152, 1120 SEO, 851 S. Morgan St., Chicago, IL 60607 United States*
AU: **van Keken, P**
EM: *keken@umich.edu*
AF: *Department of Geological Sciences, University of Michigan, 2534 C. C. Little Building, 425 East University, Ann Arbor, MI 48109 United States*
AU: **Renambot, L**
EM: *luc@evl.uic.edu*
AF: *Electronic Visualization Laboratory, University of Illinois at Chicago, MC 152, 1120 SEO, 851 S. Morgan St., Chicago, IL 60607 United States*
AU: **Tromp, J**
EM: *jtromp@gps.caltech.edu*
AF: *Seismological Laboratory, California Institute of Technology, 1200 E. California Blvd., Pasadena, CA 91125 United States*
AU: **Komatitsch, D**
EM: *dimitri.komatitsch@univ-pau.fr*
AF: *Geophysical Imaging Laboratory, Universit\'e de Pau et des Pays de l'Adour, Avenue de l'Universite, BP 576, PAU cedex, 64012 France*
AU: **Johnson, A**
EM: *aej@evl.uic.edu*
AF: *Electronic Visualization Laboratory, University of Illinois at Chicago, MC 152, 1120 SEO, 851 S. Morgan St., Chicago, IL 60607 United States*
AU: **Leigh, J**
EM: *spiff@evl.uic.edu*
AF: *Electronic Visualization Laboratory, University of Illinois at Chicago, MC 152, 1120 SEO, 851 S. Morgan St., Chicago, IL 60607 United States*
AB: Modeling the dynamics and structure of the Earth's interior now routinely involves massively distributed computational techniques, which makes it feasible to study time-dependent processes in the 3D Earth. Accurate, high-resolution models require the use of distributed simulations that run on, at least, moderately large PC clusters and produce large amounts of data on the order of terabytes distributed across the cluster. Visualizing such large data sets efficiently necessitates the use of the same type and

magnitude of resources employed by the simulation. Generic, distributed volumetric rendering methods that produce high-quality monoscopic and stereoscopic visualizations currently exist, but rely on a different distributed data layout than is produced during simulation. This presents a challenge during the visualization process because an expensive data gather and redistribution stage is required before the distributed volume visualization algorithm can operate. We will compare different general purpose techniques and tools for visualizing volumetric data sets that are widely used in the field of scientific visualization, and propose a new approach that eliminates the data gather and redistribution stage by working directly on the data as distributed by, e.g., a seismic wave propagation simulation.

DE: 9805 Instruments useful in three or more fields
DE: 9820 Techniques applicable in three or more fields
DE: 6605 Education
DE: 7207 Core and mantle
DE: 3210 Modeling
SC: Special Focus: Advances in Data Acquisition, Management, Analysis and Display [SF]
MN: 2004 AGU Fall Meeting

New Search

AGU Home