

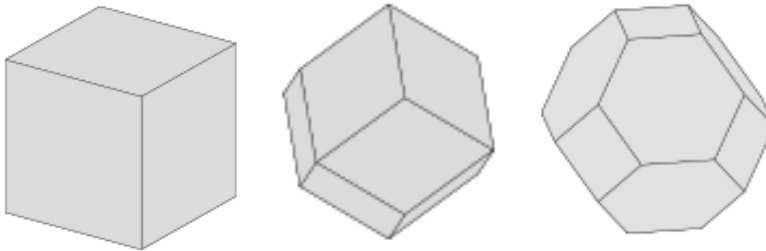
Master Thesis Project at Centre for Image Analysis, Uppsala University

Efficient volume rendering on the fcc and bcc grids

The Centre for Image Analysis (CBA) is a joint research effort between Uppsala University and the Swedish University of Agricultural Sciences. CBA engages in research and development in digital image analysis and scientific visualization. More information can be found at <http://www.cb.uu.se>.

The face centered cubic (fcc) and body centered cubic (bcc) grids are three-dimensional sampling grids. Compared to the cubic grid, a bcc grid with 30% fewer sampling points can be used without affecting the sampling/reconstruction quality in the ideal case of a band-limited signal.

Our overall goal is to enable efficient processing of images on the fcc and bcc grids. We are developing image processing algorithms for these grids and need an efficient way to render the images.



Master Thesis Project

The goal of the project is to enable efficient volume rendering on the fcc and bcc grids using Voreen, an open source volume rendering engine implemented for Windows, Linux and Mac using C++, GLSL and OpenCL. The Voreen source code, install files, documentation and tutorial can be downloaded from www.voreen.org.

Prerequisites

A successful candidate will have considerable programming experience and be well familiar with computer graphics and visualization. Experience in C++, GLSL and OpenCL is required.

If you are interested in the position, please send your CV to Dr. Robin Strand, robin@cb.uu.se. Please include a name of one reference. For further information please contact either Robin Strand or Elisabeth Linnér, elisabeth@cb.uu.se.