Cover images

These images are rendered at a data reduction ratio of 6:1, 80:1 and 315:1, from left to right. The volume data is represented using a flat multiresolution blocking scheme that supports a fine-grained granularity independent of level-of-detail selections. The specific selection is achieved by using a transfer function based significance measure for each block.

The renderer employs a single-pass raycasting technique implemented as shader programs on programmable commodity graphics hardware. Rendering acceleration is accomplished by adaptive sampling of the volume using the level-of-detail information. A direct multiresolution interblock interpolation scheme is used to provide continuous interpolation across block boundaries with arbitrary resolution differences.