Rendering with Distance Fields

Generate depth maps from mesh in 2 OpenGL passes :

- [1] – depth map of closests faces (GLuint minDepthTex)
- [2] – depth map of farthest faces (GLuint maxDepthTex)
- use Frame Buffer Object to do off-screen rendering dn CUDA GL interoperability.

-Then, launch the GigaVoxels pass.

- modify the renderer at RayInitialization() step :

    -Replace intersectBox() by 2 texture fetch in min/max depth to determine start and stop rays position.

Rendering with Distance Fields

Optimization(s)

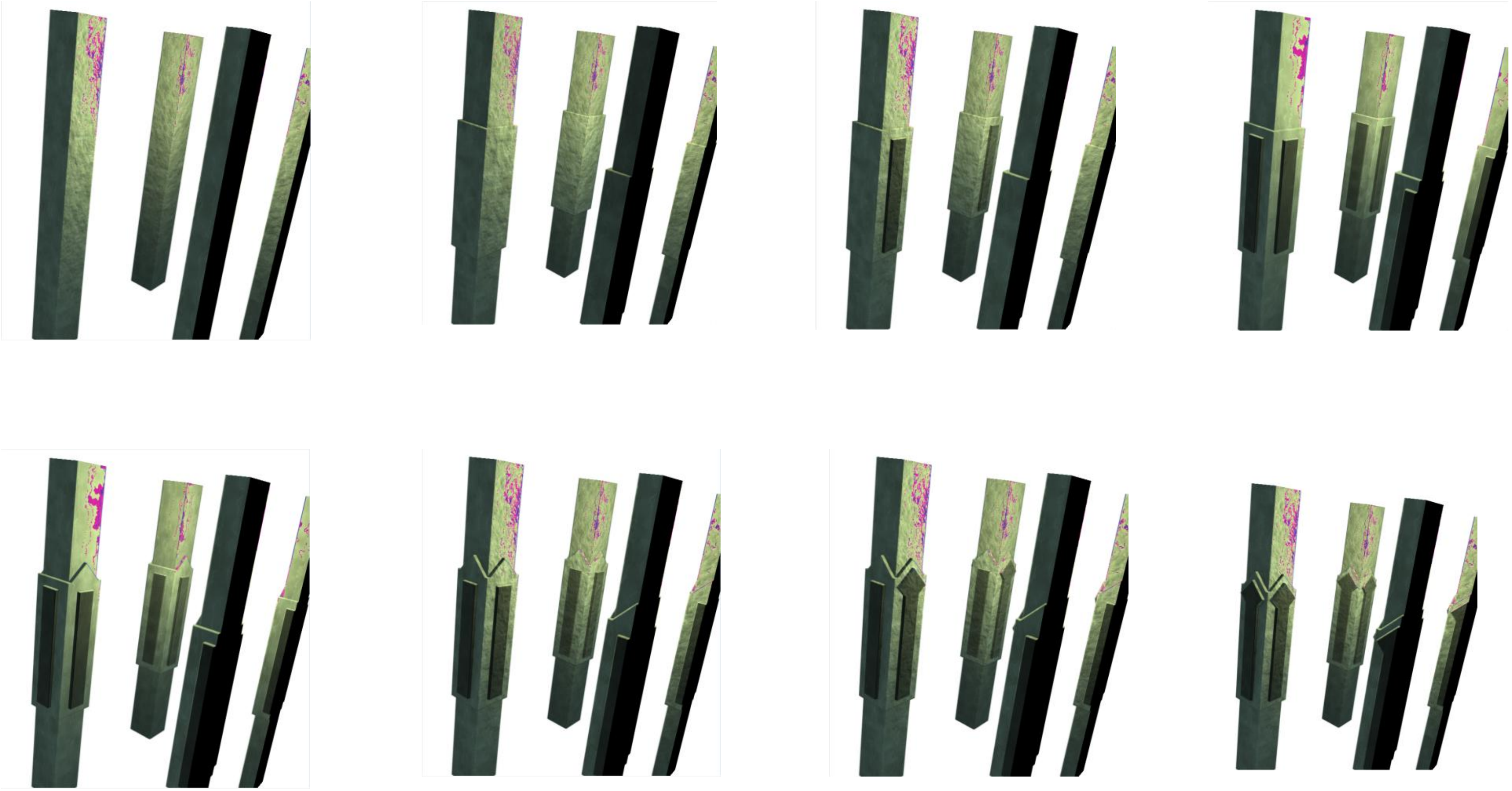
- add StopCriteria() to stop the node refinement

⇒could be done during the NodeVisitor (i.e. descent octree)

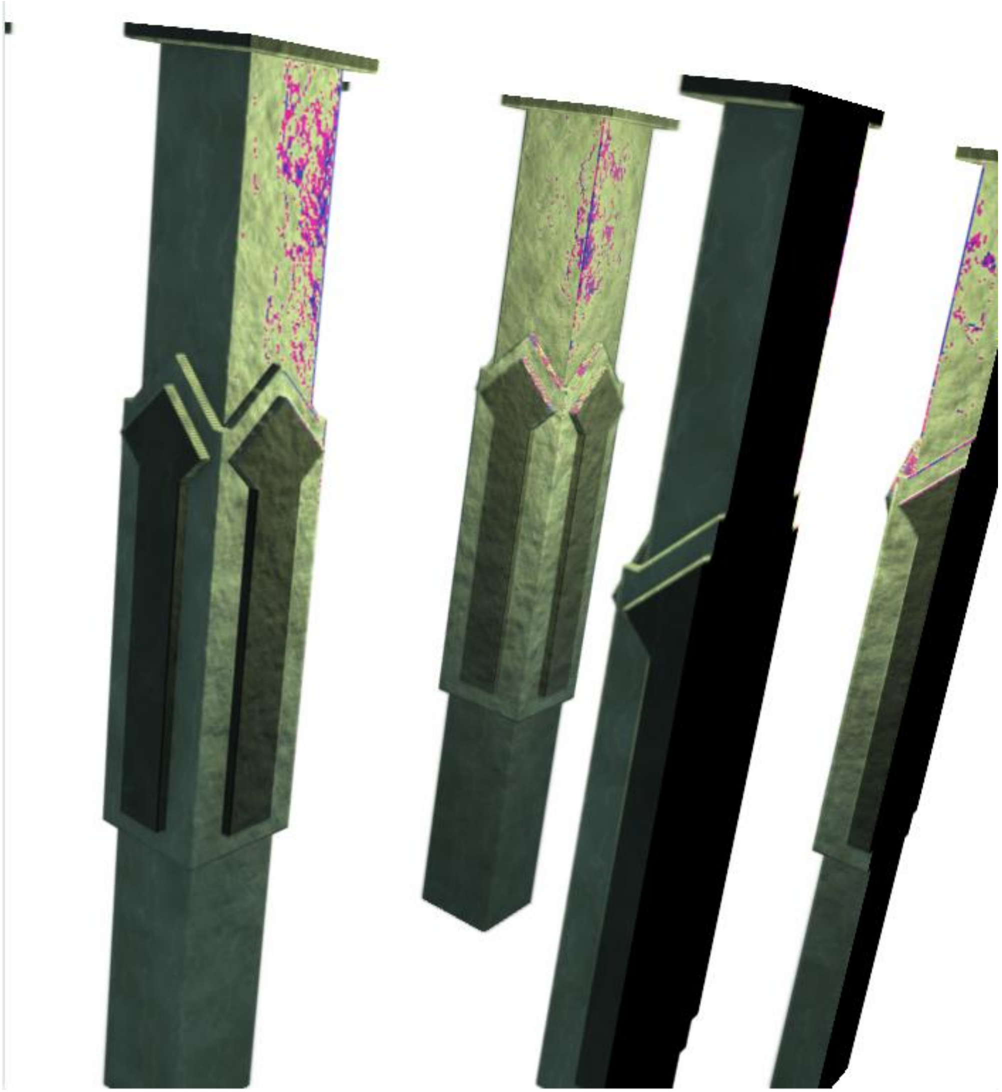
⇒ maybe like : if (nodeSize() < coeff * coneAperture) => stop descent

⇒(reminder : coneAperture is the size of an object in node space that has a footprint of 1 pixel on screen)

Rendering with Distance Fields



Rendering with Distance Fields



Rendering with Distance Fields

Rendering with Distance Fields