Jacob Leboeuf
Computer Graphics II
Dr. Haim Levkowitz
13 October 2021

Summary

This article discusses the setbacks that come with using volumetric rendering within the medical industry, such as to help examine the scalar fields found from CT and MRI scanners, and provides a solution to limit such issues that come with using it. Noting that using such rendering often needs shading models that require excessive precomputation, the authors look to provide such a model that does not need to depend on that, and in turn allows the user to maximize the benefits of using such a rendering style. The shading model in question adds the ambient occlusion effects to volumetric rendering, providing the perpetual cues that assist in understanding the structure of the data being viewed. The lack of precomputation present in this created shading model provides more freedom to the entire process, such as allowing the interactive manipulation of clipping planes and the position of the camera itself. Given that the article is now over a decade old, the future ambitions of the model by the authors, such as the rendering of iso-surfaces, may have been achieved since its publication in 2009.