

Master's Thesis

Realtime Realistic Cloud Rendering

Clouds have great visual impact and emotional influence on people. However, the volumetric nature of cloud make it difficult to reproduce in a computer, especially in video games which require the rendering process to be real-time. This thesis aims to find a method to render volumetric clouds of various types with photorealistic lighting while maintaining efficiency, i.e. has a high frame rate (>60 fps) on main stream computer hardware. To achieve this goal, a noise based method may be used to generate the clouds and the ray-marching technique may be used to render the volumetric cloud.

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