基于凸包的视锥体裁剪精度优化

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摘 要：针对视锥体对空间中物体的裁剪，提出一种新的基于凸包的精度优化方法，该方法首先得到三维物体到二维平面的投影，然后对投影坐标进行凸包组织，最后根据凸包上的坐标点和摄像机的连线得到物体的可见性，整个优化法只需一些额外的存储空间来存储物体的凸包信息即可．实验结果表明，该方法易于实现，能减少通常的包围球、圆柱体检测法中出现的不合理结果，进而提高整个三维渲染系统的效率．

关键词：三维；视锥体；裁剪；凸包；投影
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Precision Optimeization of View Frustum Culling Based on Convex Hull

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Abstract: According to the space object frustum clipping, a kind of precision optimization method has been put forward that is based on the convex hull. First of all, the method get the 2d plane projection from 3d object, and organize projective coordinate to a convex hull, finally get the visibility of objects according to the line form the coordinate of convex hull and the camera, whole optimization needs any extra memory to save the data of convex hull only. The experimental results show that this method implement simply, it can reduce the unreasonable result from the sphere detection or cylinder detection, improving the whole efficiency of 3D rendering system.

Key words: 3D; view frustum; culling; convex hull; projection

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