Hybrid Forward-Backward Reflection Rendering

Presented by Chunhui Mei

High speed reflection rendering is challenging for complex reflective surface and scene objects. Typical backward reflection rendering is ray tracing, which is still slow for interactive rendering on PC. Previous forward reflection rendering, like reflection morphing, has some limitations for the shape of reflective surface. Hybrid approach aims to overcome these difficulties. Using backward ray-cone tracing in acceleration structure of diffuse scene, we can obtain the vertex set very fast for forward projection. Then we project the vertices by a general 3 ray camera. Finally we can render the projected vertices independently, or triangulate and render them in proper connectivity.