

CVIT Workshop Day 4 Session 2

In Computer Graphics we make many approximations. The first approximation is that light behaves as a ray only, but we know that it can behave as a wave also. The second approximation is discrete surfaces, but in reality all surfaces have some surface of granularity.

Everything is discretized into pixels. Therefore there is always much more information contained in the area of one pixel than just a simple color that the pixel owns.

With current RTX GPUs, we cannot even shoot more than one ray per pixel for real-time rendering, such as that in games. That is how difficult it is!

In rendering, you could allow the user to interact with the render.

If we perform approximations in rendering, then we would not have the flexibility to change the lighting, because it starts looking weird.

For Interstellar, the bending of light due to gravity was actually simulated, and therefore the rendering took place through actual simulations.