Crepuscular rays

I am interested in Crepuscular rays. This natural phenomenon happens when the bright sunlight shines through the clouds or dust in the air and refract the light so people can observe the outline of the light rays. This is also related to Tyndall effect which can often be observed in the woods. With a brief understanding of the real-world effect, I will write about how to implement it using Unity and HLSL shader.

Below is a graph of Crepuscular rays effect in a 3d game. In my idea, there can be two shaders working together. One is to render the light rays. One is to combine the light rays and the game scene to control how bright the light rays will be and where the effect will take place. First is to set a light source in the scene which can be the sun or a light bulb depends on the scene setup. I think we can blur the light source a bit for a better effect. Then use a script to get the coordinates of light rays from the observing point. By controlling illuminate and decay variables, we can set the light rays from bright to original color of the game scene.

Then we should also get the coordinates of screen and determine the range of Crepuscular rays effect happened. By setting the coordinates, we can also make effect such as when the camera moves closer and closer, the light will go from bright to dim.

According to a documentation of Crepuscular rays, We can also use a lazy way to make a opaque graph to create the texture of the light rays and then use some variables and calculation to make it bright or fade.

Part B:
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