Lab1 Transfer Function:

provided in lab description

Lab2 Transfer Function:

256x256 image:

0, black, 0

2000, light pink, 0.002

2500, red, 0.002

3000, dark green, 0.4

5000, dark red, 0.8

512x512 image:

0, black, 0

2000, light pink, 0.001

2500, red, 0.001

3000, dark green, 0.2

5000, dark red, 0.4

Comparison:

task1:

There isn’t qualitative different between image resolutions. However, when shading is added, the image looks immediately more 3-dimensional than a planer image.

Not shaded: Logo, icon

Description automatically generated Shaded: A red circle with a black background

Description automatically generated with medium confidence

task2:

By increasing the image resolution, more features were able to be rendered, like some wave-like high temperature regions around the earth mantle.

By adding Phong illumination, the overall feature becomes will vivid , and the subtle textures of the temperature field between the earth mantle and earth space were able to be displayed.

Low Resolution: A picture containing orange, red, dark, light

Description automatically generated High ResolutionA picture containing red, orange, dark, close

Description automatically generated

Not shaded: A picture containing orange, red, dark, background

Description automatically generated Shaded: A close-up of a fish

Description automatically generated with low confidence