

Group Project Report #4

Radar Backscatter Imaging

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In the last phase of the HDR imaging project we had implemented a graphical user interface for the HDR imaging software and provided support for tonemapping photos of natural scenery via this interface. In this next step the main focus was to determine reasonable values for tonemapping black and white radar backscatter images and hooking these values into the existing GUI design. The previous work on the graphical user interface allowed each proceeding step to take considerably less time as each image type merely had to be evaluated and hooked into the interface itself.

Given that each developer on the task was at least somewhat aware of the various techniques for tonemapping, the team was quickly able to narrow down the scope of experimentation to determine what values to use when tonemapping the image. After that some trial and error was used to narrow it down to the settings that were ultimately settled upon for this task. In order to do so we created multiple scenarios in which the values of the tonemapping were adjusted and we decided on the most visually pleasing image out of the group and we continued this process until we narrowed the values down to the best images.

As stated previously, once these values were found they merely needed to be plugged into the existing interface to perform the desired functionality. The only modification required to tonemap these images were to update how the MAT images were opened and read. All data manipulation beyond this initial step proceeded as normally and expected.