EE591 HW3 Qinyang Shou

Summary of the observation of the MR Demo

In the demo, fisrt I learned that the k space data are always complex valued. However, the magnitude of the ksapce always has a high value in the center and low values in the surroundings. From a sampled slice in the kspace, I learned what a typical baseband signal looks like. It can be separated into a real part and a imaginary part, called the quadrature signal. The inverse Fourier Transform of this slice is just the projection of the object along the x direction, which can be verified in the reconstructed image, which is a round water phantom. Next I learned the relationship between the resolution and size of k space, as well as FOV and the △k. With not large enough size of k space will result in blurring; and with larger △kx or △ky will lead to a decrease in FOV and cause aliasing.