

醫用超音波專題

Computer Homework #2: Digital Beamformation

Due 12:00am 4/17/2002 by emailing to

[paichi@cc.ee.ntu.edu.tw](mailto:paichi@cc.ee.ntu.edu.tw)

Please refer to the data file “acuson17c” for this homework.

1. Implement the baseband digital beamformation architecture. Compare the images to the ones obtained from the RF architecture with upsampling ratio of 1, 2, 4 and 8. (50%)
2. Implement single element synthetic aperture imaging. Compare the results to full phased array imaging in mainlobe, sidelobe level and grating lobe. (50%)
3. Explore any related issues based on the same data file. (bonus)