



# COMPARISON OF IMAGE RECONSTRUCTIONS FOR GAMMA TRANSMISSION COMPUTED TOMOGRAPHY SYSTEM BY USING MATLAB AND I-GORBIT SOFTWARE

Khaing Nyunt Myaing, Myo Zaw Htut, Myo Min Thein  
khaing.nm@gmail.com

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## Introduction

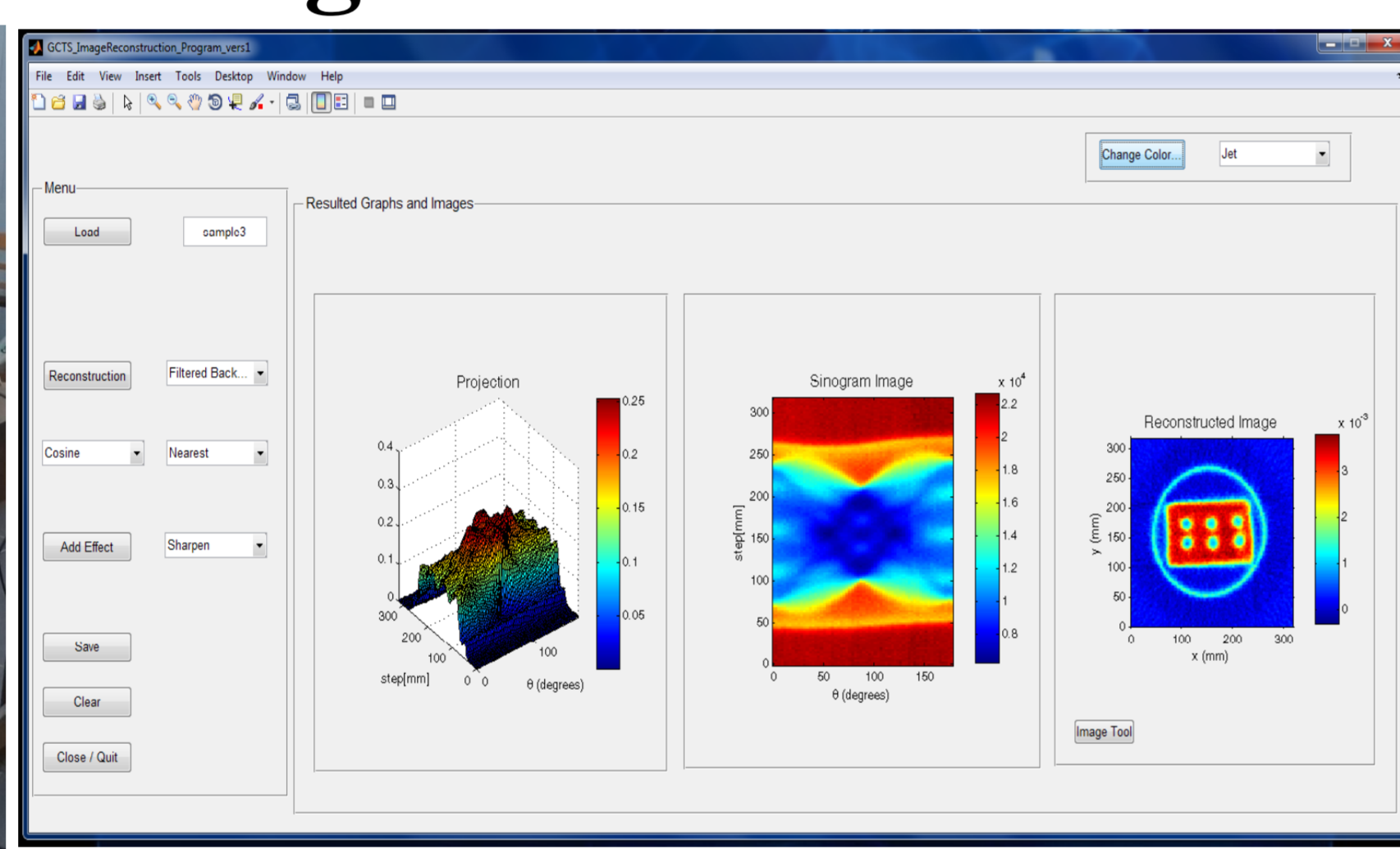
24 to 28 April 2017, Vienna, Austria

Industrial computed tomography (ICT) system is a breakthrough in industrial radioisotope and radiation applications since they provide a range of cross-sectional views through materials, components and assemblies. The samples used in CT measurements were designed to simulate a cross section of various density materials with low to high density materials placed in a polymer pipe vessel. The projections used in this work were obtained by GORBIT CT system at the Radioisotope Technique Laboratory in Department of Atomic Energy, Yangon.

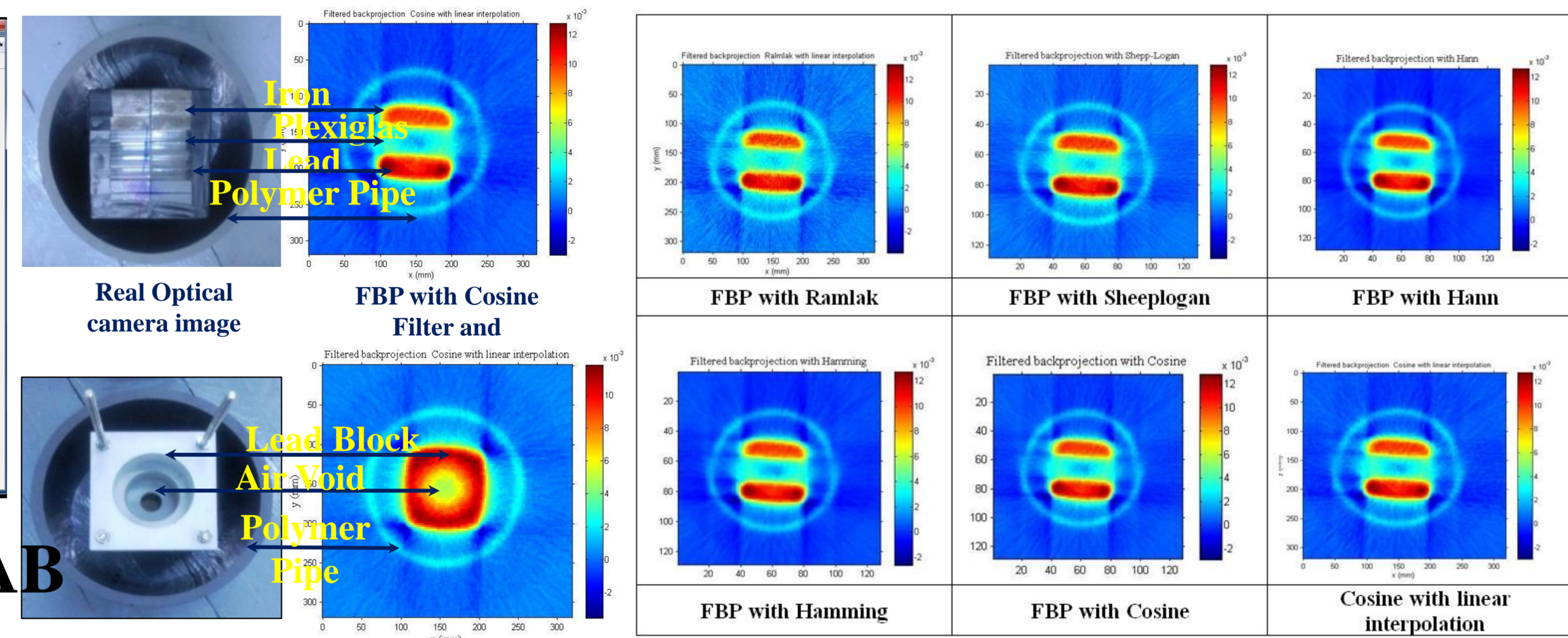
## Experimental Set Up of CT System



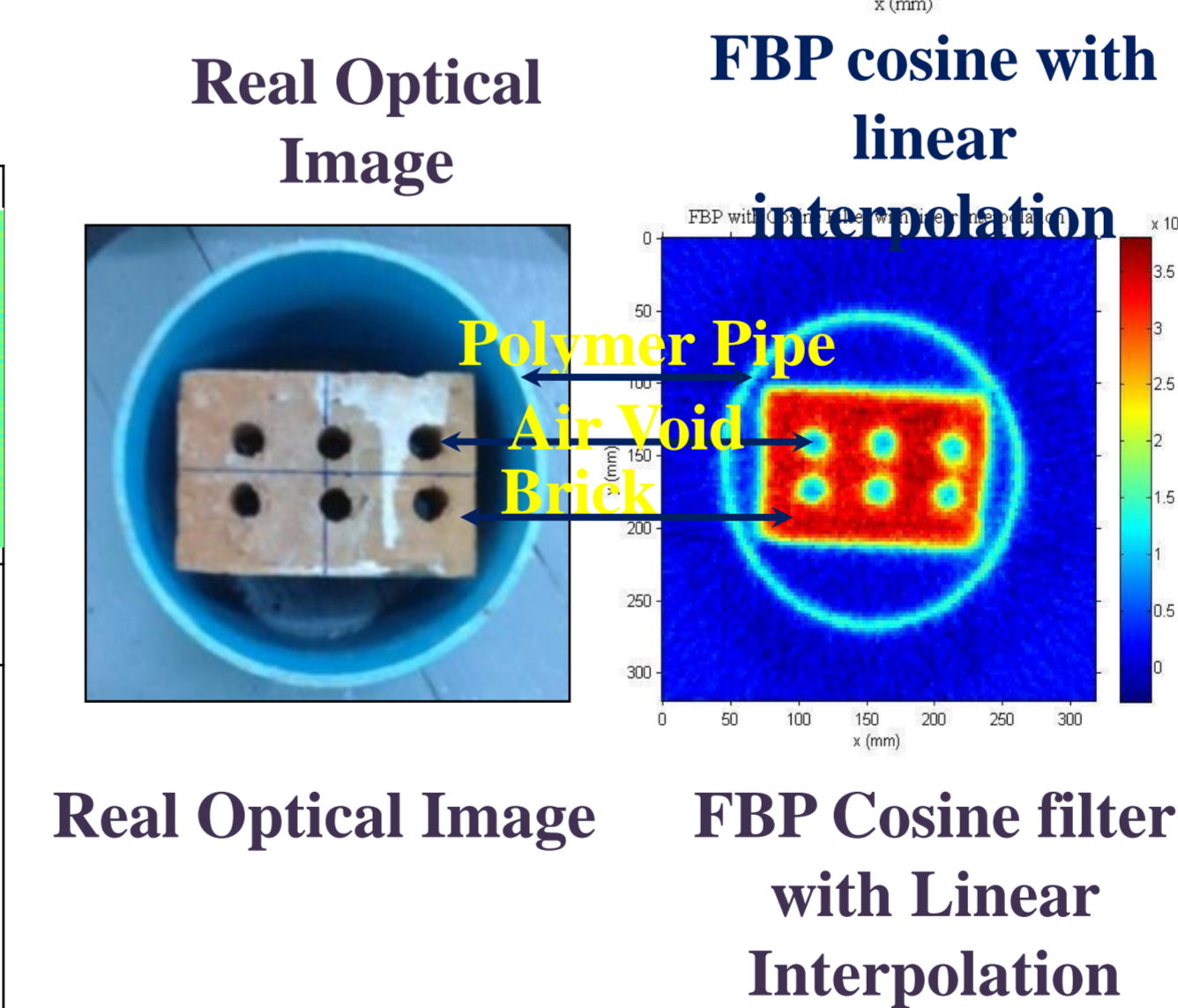
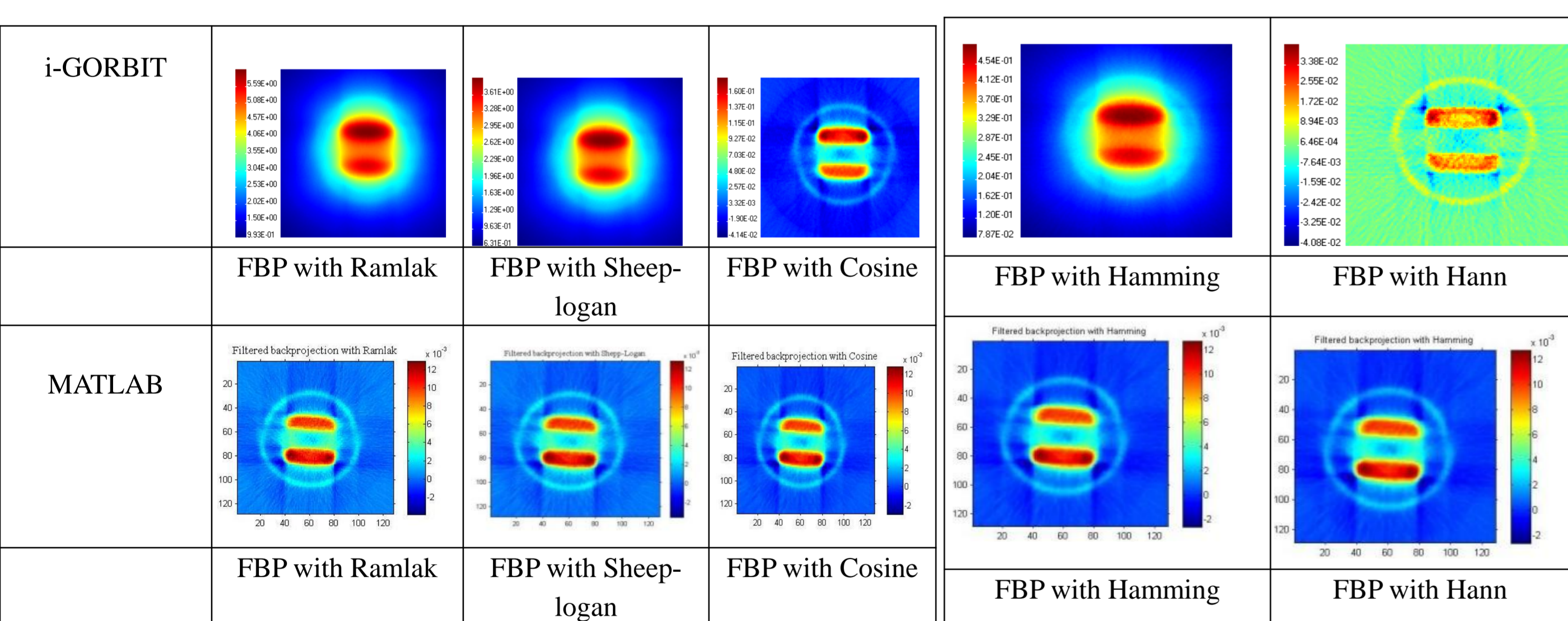
## Working Interface of MATLAB Image reconstruction



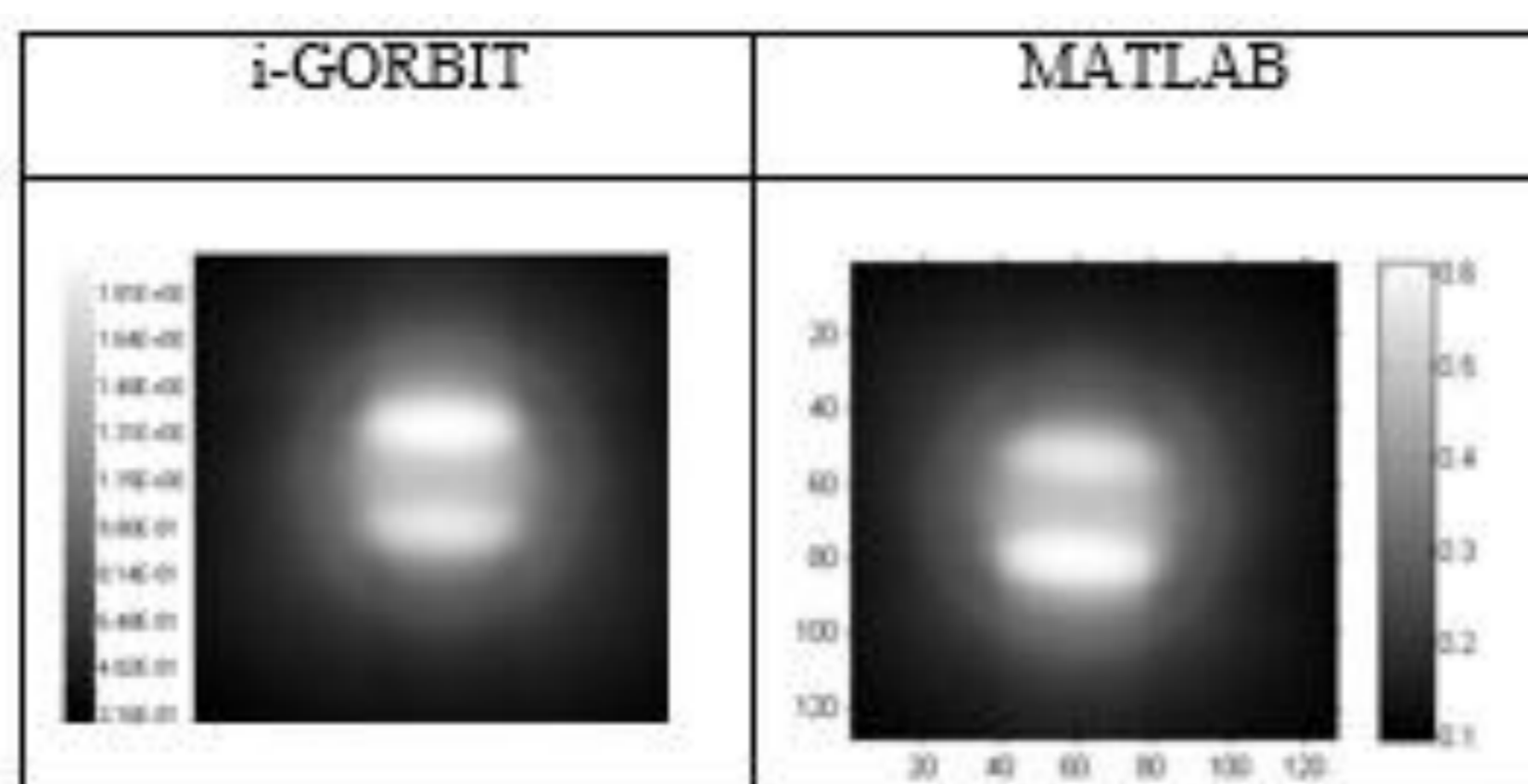
## Reconstructed Images by MATLAB



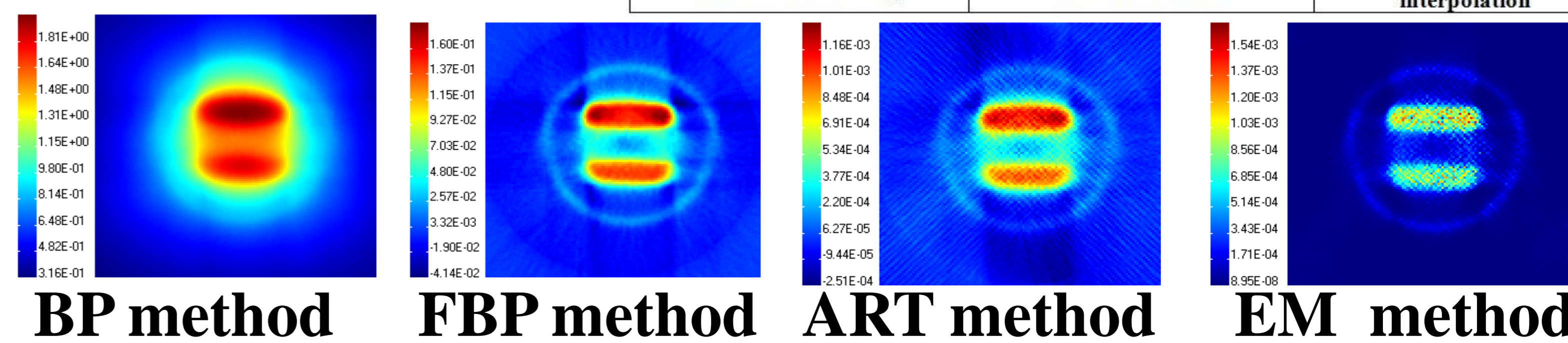
## Comparison of Images by i-GORBIT and MATLAB FBP method with different filter functions



## Comparison images by BP method



## Reconstructed Images by i-GORBIT



## Conclusion

The gamma ray CT provided a clear graphical representation of the different density distributions that occurred in cross sections of the pipe vessel. Image reconstructions by MATLAB based on Graphic User Interface GUI improved the resolution of images by FBP methods with different filter functions and interpolations.

