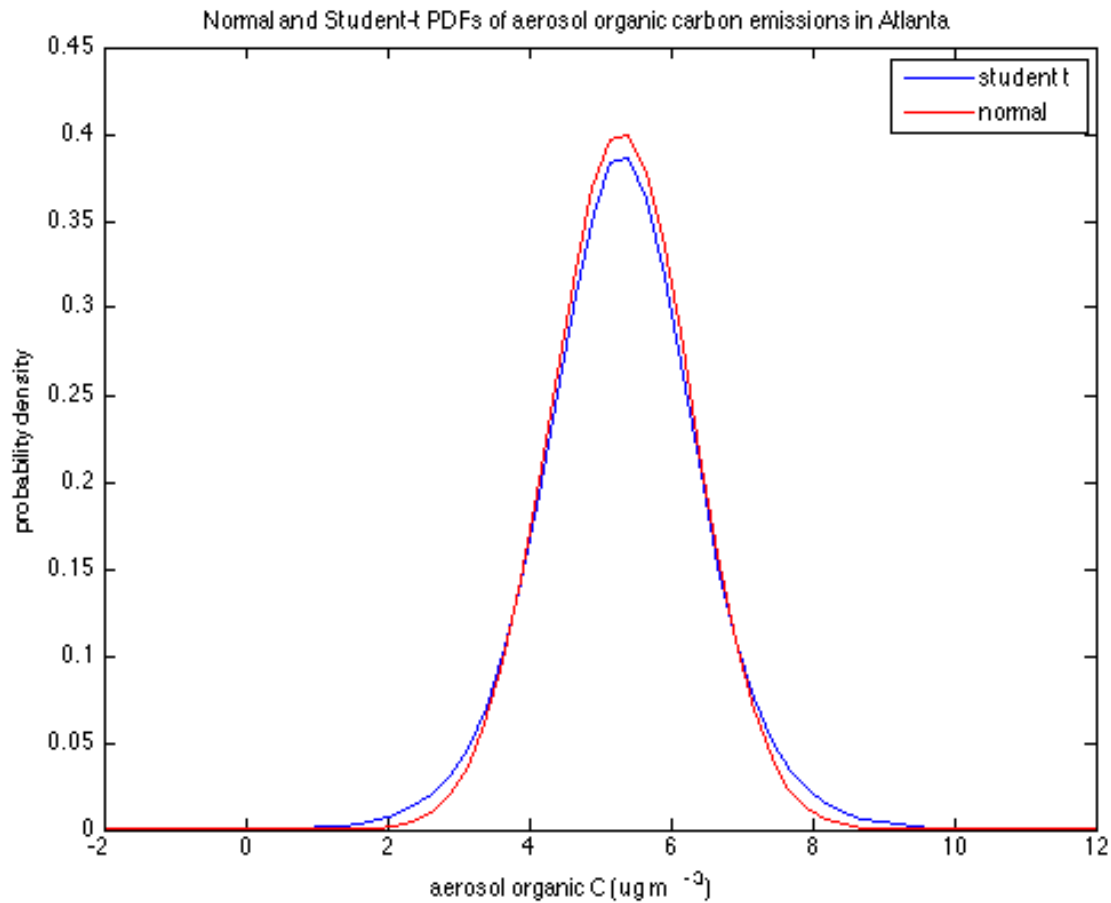


Homework 3

(1) 95% confidence interval using Student's t-distribution:
4.560612 to 6.059388

(2) 95% confidence interval using Normal distribution:
4.253368 to 6.366632

(3) Plot comparing the 2 PDFs



The interval using the student-t distribution is narrower than the interval derived using the normal distribution because the tails are heavier and more data points are in the fringes. Student-t distributions have heavier tails to take into account a small number of samples. In the case of this aerosol carbon data, the confidence interval from the student-t distribution would be a better one to use because the sample only includes 10 data points.