

1. Use the technique of Press, determine the velocity of light from its Bayesian probability distribution, using the following observations

$$299\,798\,000 \pm 5000$$

$$299\,789\,000 \pm 4000$$

$$299\,797\,000 \pm 8000$$

$$299\,794\,000 \pm 3000$$

$$299\,791\,000 \pm 5000$$

$$299\,770\,000 \pm 2000$$

$$299\,789\,000 \pm 3000$$

$$299\,790\,000 \pm 4000$$

where the uncertainties are standard deviations and all results are expressed in m/sec.

What is the probability that all observations are wrong (vector $\underline{v} = \underline{0}$)? Deduce the

posterior distribution for the prior probability that a given measurement of c is correct and has correctly quoted error bars.