PHY 180 Lab
Reading Assignment #10

Reading: Section 4.2 – 4.3 (pg 97-102)

Reading Questions:
- How do you determine the best estimate of a measurement done multiple times?
- What is standard deviation? What does it represent? How is it calculated?
- How is standard deviation different from variance?
- What is the difference between the population standard deviation and the sample standard deviation?
- When talking about uncertainty, what is special about the number 68%?

Practice Problems:
- Quick Check 4.1
- Problem 4.2 (answer on back)
- Problem 4.3 (refers to page 102)
- Problem 4.9
- Problem 4.10
- Problem 4.11
- Problem 4.12

To determine the due date for this lab assignment, please look at the ‘lab component’ section on the course webpage.
Problem 4.2 \(\rightarrow\) (a) Mean = 9.7 ; (b) Sample SD = 0.16
Problem 4.10 \(\rightarrow\) Expectation 68% of 10 = ~7 and 7 measurements fall within the range 83.5 to 87.9
Problem 4.12 \(\rightarrow\) Sample standard deviation = 0.14

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