## Statistics

When something is measured many times the distribution of results can be shown in a histogram. The width of the peak in the historgam describes the amount of spread in the data, or the uncertainty in the value of the quantity being measured ( $\delta$



If you calculate something (i.e. $f(x)$ ) based on a measured value ( $x$ ), your calulated values will have a spread corresponding to the spread in the measured values by $\delta f=(d f /$ $d x) \delta x$

When comparing two quantitites, if they differ by less than the sum of the spread in each quantity they are said to "agree within the experimental uncertainty"


