

## Data from the “Milli-Can” experiment

The file “Class07\_Data.dat” contains a list of 12 numbers, each of which is a measurement of the mass (in grams) of a sealed container. The containers each hold some number of identical ball bearings.

Download the file from the course website. Use this data to find the mass of a single ball bearing. Estimate the uncertainty in this mass.

Approach this problem in the following way:

- Sort the numbers from smallest to largest, and store the result in a new list.
- Plot this new list. This should make it plain that the masses come in quantized steps.
- Form a new list by subtracting mass  $n$  from mass  $n + 1$ . Histogram the result to identify the mass quanta.
- Select the group from this list that you believe represents the mass of single ball bearing. Find the mean and standard deviation of the result.

Send the grader an email with your notebook as an attachment.