

- ❖ For a given set-up, these errors may be estimated to a certain extent and the necessary corrections may be applied to the readings.

Random errors

The random errors are those errors, which occur irregularly and hence are random with respect to sign and size.

These can arise due to random and unpredictable fluctuations in experimental conditions (e.g. unpredictable fluctuations in temperature, voltage supply, mechanical vibrations of experimental set-ups, etc.), personal (unbiased) errors by the observer taking readings, etc.

For example, when the same person repeats the same observation, it is very likely that he may get different readings every time.

- ❖ As the cause of random error is not known and it is irregular in nature, the random error cannot be completely eliminated. It can only be minimized by repeating the observations several times.
- ❖ Repeating the observations several times and taking the arithmetic mean of all the observations, the mean value would be very close to the true value of the measured quantity.

