**Writing a labreport and how to manage the data**

You always take three measurements of the value to be measured and take the mean and standarddeviation. Do this in Excell.

Example1:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| y | y1 | y2 | y3 | y(mean) | y(stdev) |
| 0 | 2,3 | 2,4 | 2,3 | 2,333333 | 0,057735 |
| 5 | 5,1 | 5,1 | 5,3 | 5,166667 | 0,11547 |
| 10 | 8,9 | 9,1 | 9,2 | 9,066667 | 0,152753 |
| 15 | 13,2 | 13,5 | 13,4 | 13,36667 | 0,152753 |
| 20 | 18,5 | 18,4 | 19 | 18,63333 | 0,321455 |
| 25 | 24 | 24,1 | 24,5 | 24,2 | 0,264575 |

Make a plot of the measurements ( also in Excell) and take the standarddeviation as a value for the errorbars at each point of measurement.

Also name your axes and your plot.

Plot on this figure the correlation and its R2 value.

Remember there might be overfitting!!!

Example 2:

|  |  |  |
| --- | --- | --- |
| motorspeed(Hz) | speed(mm/s)(mean) | speed(mm/s)(stdv) |
| 30 | 2,4 | 0,1 |
| 40 | 3,366666667 | 0,152752523 |
| 50 | 4,433333333 | 0,057735027 |
| 60 | 5,233333333 | 0,057735027 |
| 70 | 6,266666667 | 0,152752523 |