

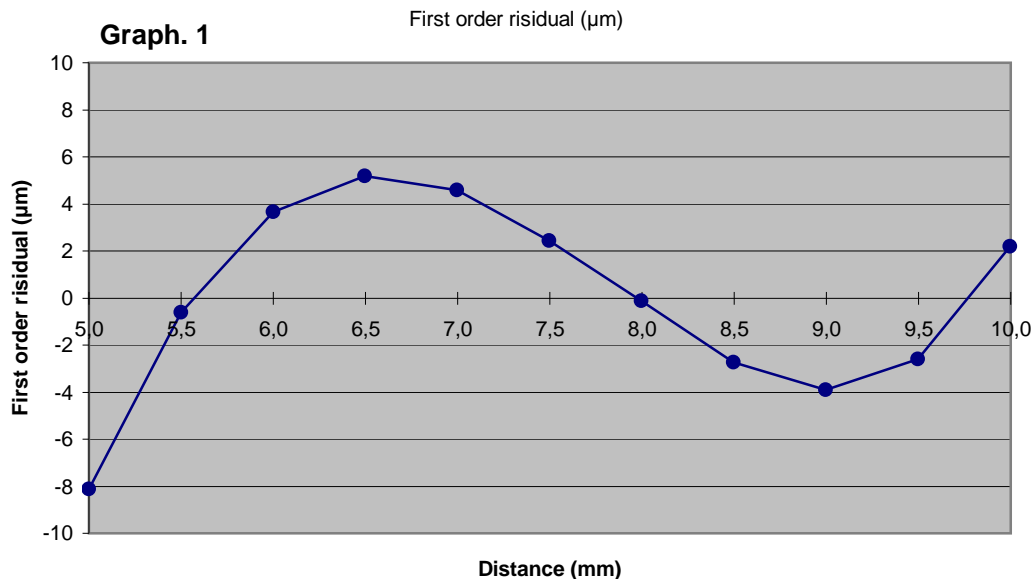
# H7DC-040

Date : 19/12/2012

## First order linearization

First order regression coefficients

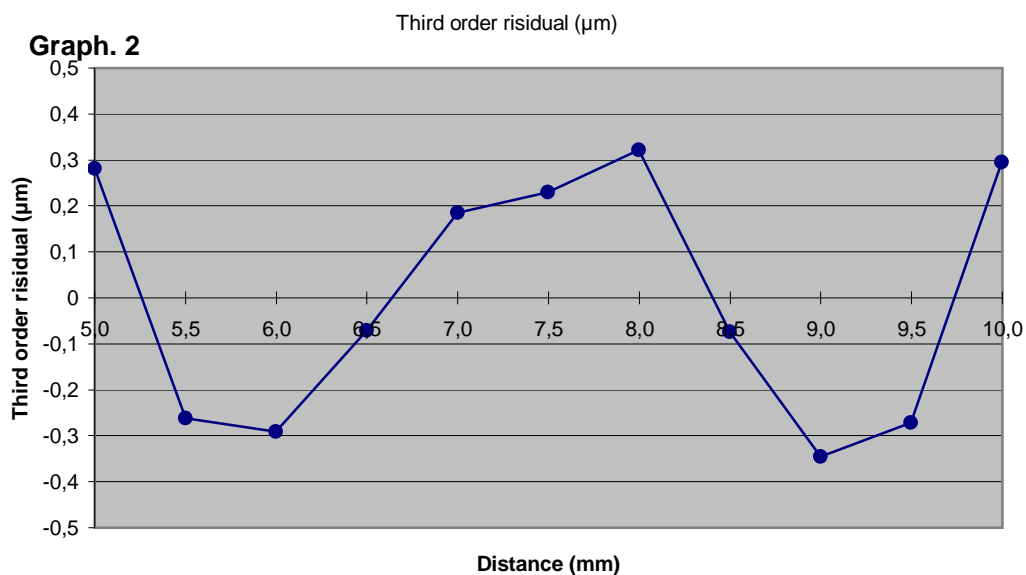
$$d = 5,0077 + 0,49888 V$$



## Third order linearization

Third order regression coefficients

$$d = 4,9993 + 0,50923 V - 0,002366 V^2 + 0,0001433 V^3$$



Legend : Linearization polynoms express distance  $d$  as a fonction of voltage  $V$

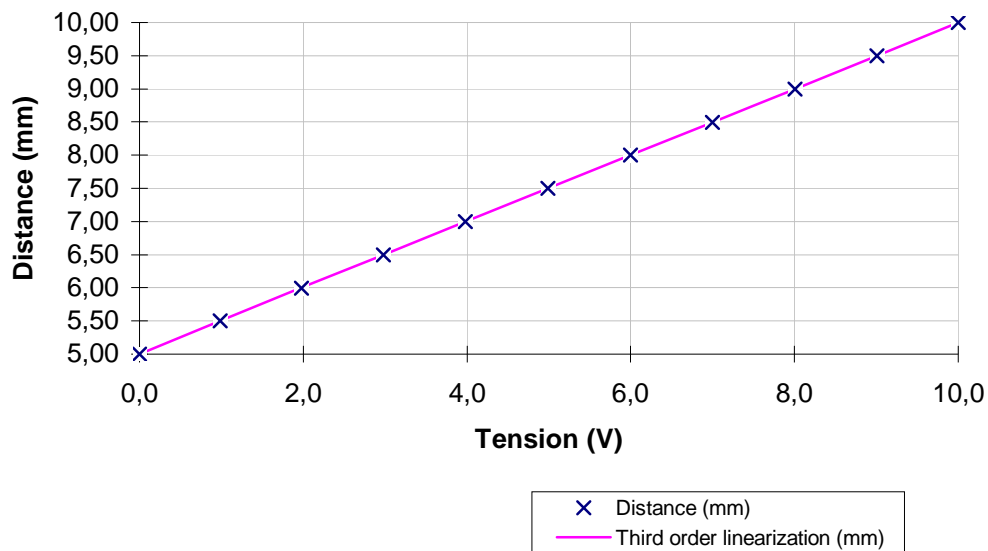
- Distance is in mm

- Voltage is in V

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## Sensor linearization



## Résultats

| Distance (mm) | Voltage (V) |
|---------------|-------------|
| 4,9993        | -0,0005     |
| 5,4991        | 0,9863      |
| 5,9988        | 1,9794      |
| 6,4972        | 2,9754      |
| 6,9977        | 3,9799      |
| 7,4968        | 4,9846      |
| 7,9976        | 5,9936      |
| 8,4966        | 6,9990      |
| 8,9975        | 8,0055      |
| 9,4968        | 9,0037      |
| 9,9975        | 9,9977      |