Granitetable as Reference Surface

- Planarity of granite table: $\sigma_{\text{ref}} < 6 \ \mu m$
- Use of granite table as reference surface to eliminate miss measurement caused by bending of CMM
- Bending of CMM in order of 0.5 mm
- Two sensors available
  - red laser $\lambda_{\text{red}} = 670 \ \text{nm}$
  - blue laser $\lambda_{\text{blue}} = 405 \ \text{nm}$
- Less penetration of surface with shorter wavelength $\Rightarrow$ smoother reference surface with blue laser

- Difference between reference measurements: $\sigma_{\text{red} - \text{blue}} = 9 \ \mu m$
Copper Strips on FR4 PCB Material

- Scan of FR4 with 35 $\mu m$ thick Cu-strips with a pitch of 450 $\mu m$
- Constant movement across surface
  Continuous readout
  $\Rightarrow$ 1 measurement point / $\mu m$
- Gaussian fit to strip pitch:
  $\mu_{pitch} = 451 \, \mu m; \, \sigma_{pitch} = 11 \, \mu m$
- Gaussian fit to strip height:
  $\mu_{height} = 35 \, \mu m; \, \sigma_{height} = 3 \, \mu m$