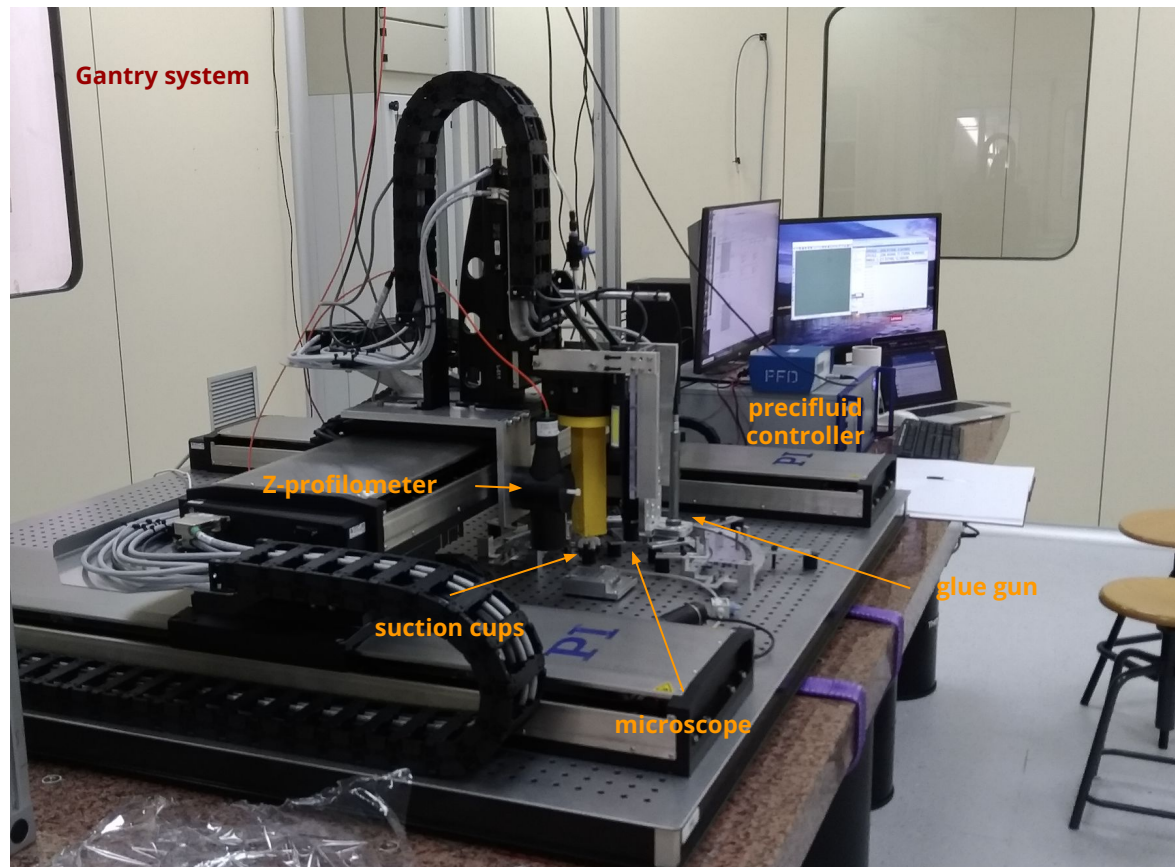

Module loading update

— G. Chiodini, L. Longo —

Workflow

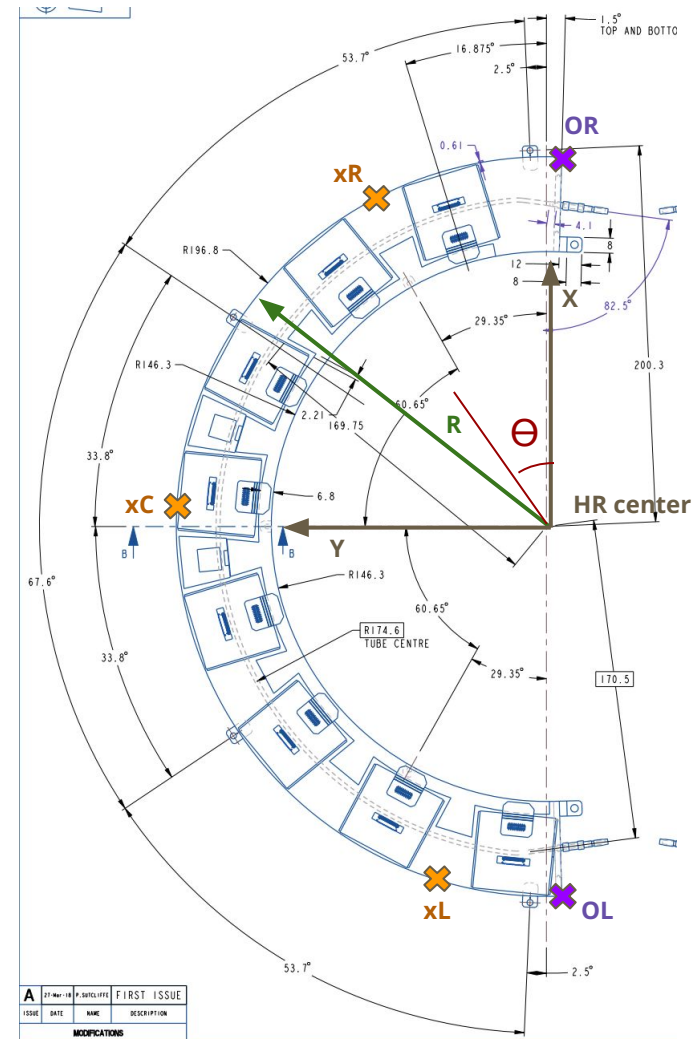
- Half-Ring metrology
- Module metrology
- Glue deposition
- Pick module
- Place module

For all the steps above a dedicated labview panel is in place



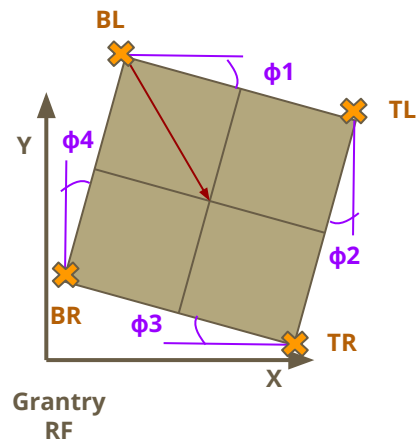
Half-Ring metrology

- Goal:
 - center of the HR
 - outer radius R
 - estimate of the HR shift in Θ
 - coordinates of the various tools to be in HR center
- Steps:
 - offsets estimate of the various tools wrt the microscope
 - measure the coordinates (x,y) of xL , xC , xR to determine the HR center and R
 - measure the coordinates OL and OR to determine the HR shift in Θ



Module metrology

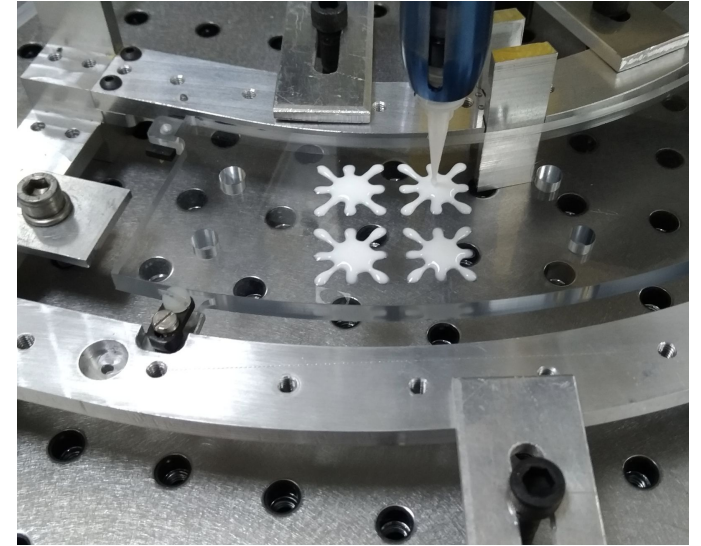
- Goal:
 - barycenter / c-point (BL corner+(21,20)mm) estimate (barycenter and c-point should be the same with an ideal module)
 - module rotation (in the ideal case all the ϕ angles should be the same)
- Steps:
 - measure the coordinates (BL, TL, TR, BR) with the microscope to determine c-point and barycenter
- to FINALIZE:
 - estimate the rotation of the module



FPOS(0...	(573.590005, -0.045381)
FPOS(2...	(269.860000, 36.977090, 19.999950)
RMS(0.1)	(8.262989, 1.909556)

Glue deposition

- Goal:
 - deposition of 4 glue flakes on HR in the nominal position of the modules
- Steps:
 - provide the gantry RF coordinate to have the glue gun in the HR centre, the Θ offset of HR as inputs
- To DO:
 - **calibrate the glue gun speed (cm³/s) with the gantry speed (mm/s) to have a uniform deposition of the glue along the flake lines**



Test done with the glue “Giotto vinilik”, with a glue gun speed of 0.00228 cm³/s and a gantry speed of 3mm/s → to be redone: amount of deposited glue is 0.44g → its density is 1g/cm³ → 0.44cm³ of glue → T~193s ~ 3m but we have spent much more time

Pick & Place Module

- Goal:
 - pick the module from the parking position
 - position the module on the HF in its nominal position
- Steps:
 - pick the module with the rotation axis of the gantry passing through the c-point/barycenter (done a calibration rotating the module of 180° and estimated the offset between c-point and rotation axis looking at the new position of the BL corner)
 - place the module
- to DO:
 - **the module is not planar to the Half-Ring: necessary to estimate the Z-profile of the HR and to adapt the module plane to be parallel to the HR surface**

