



TAIPAN Positioner Software System Current Status

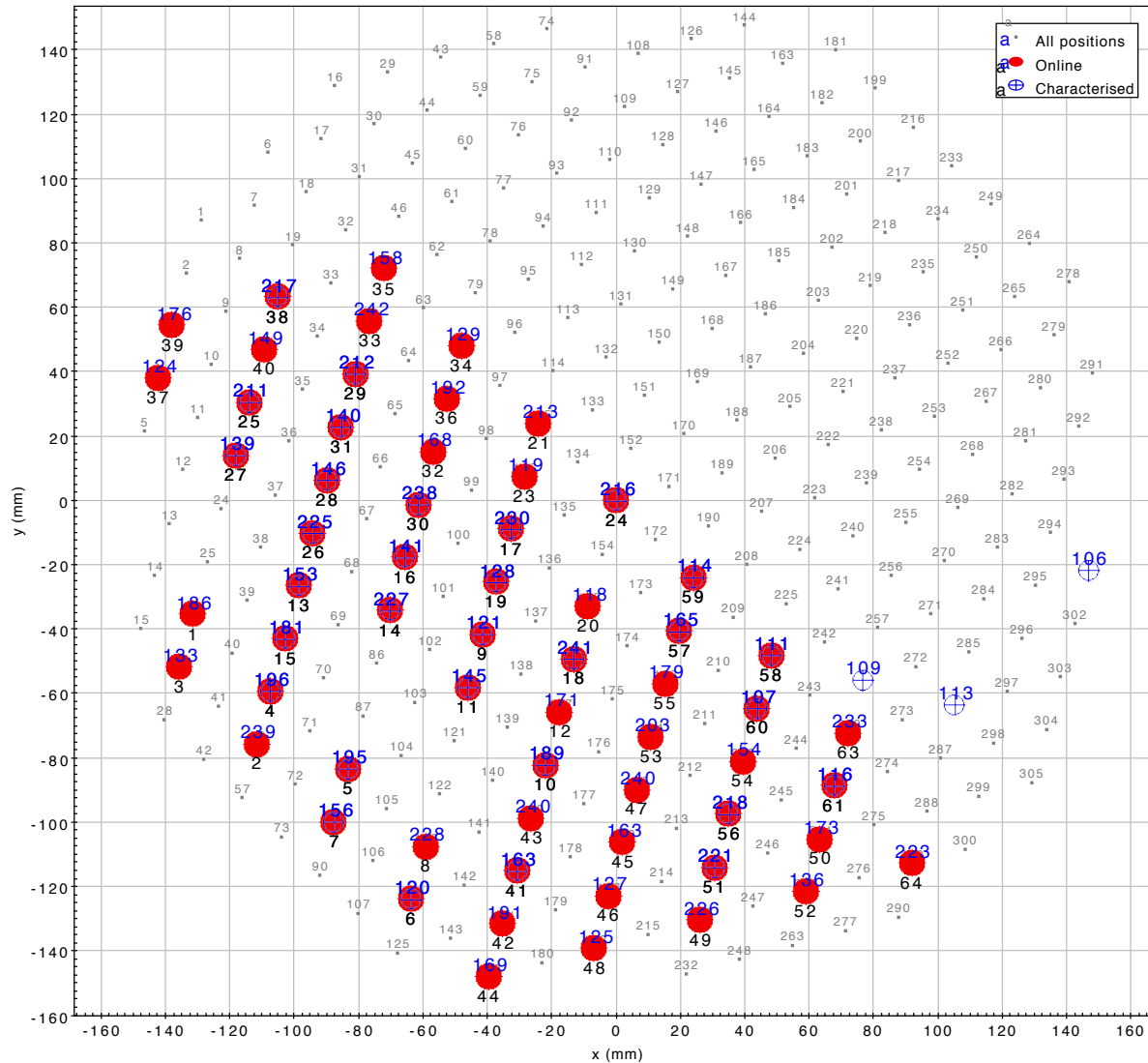
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Current Rig Population

- 63 Active SBs





Metrology

- Running at full speed – no more problems since basement switch reconfiguration & full path using jumbo (MTU=9000by) packets
- Generally works well. Occasional communication problem between processes – currently under investigation.

Starbug Properties

- Significant differences between characteristics determined in the lab from those seen on the test rig.
 - Fibres have been replaced since original characterisation
 - Bends in umbilical have large effect on properties -> relocating a SB will change its properties
- Not a major problem for $\varphi_x, \varphi_y, \varphi_\theta$, (just more iterations of closed loop) but a problem for step size – this is used to determine how many steps to send a SB in a given Tick
- Have brought forward development of calibration routines (to be run on startup), to characterise SBs at the start of each test run.



SB Control

Current tests:

- Determine max speed at which greatest number of Starbugs can be run simultaneously.

Investigation:

- SBs towards plate edge sometimes don't move – especially rotation
 - See the problem more at lower (V_i, V_o, f) & small number of steps
 - Could be due to rough plate surface (not final plate), debris, or curvature of the plate.
 - May need to revisit current movement process (rotate; translate x, y) -> translation-only movement for external SBs?