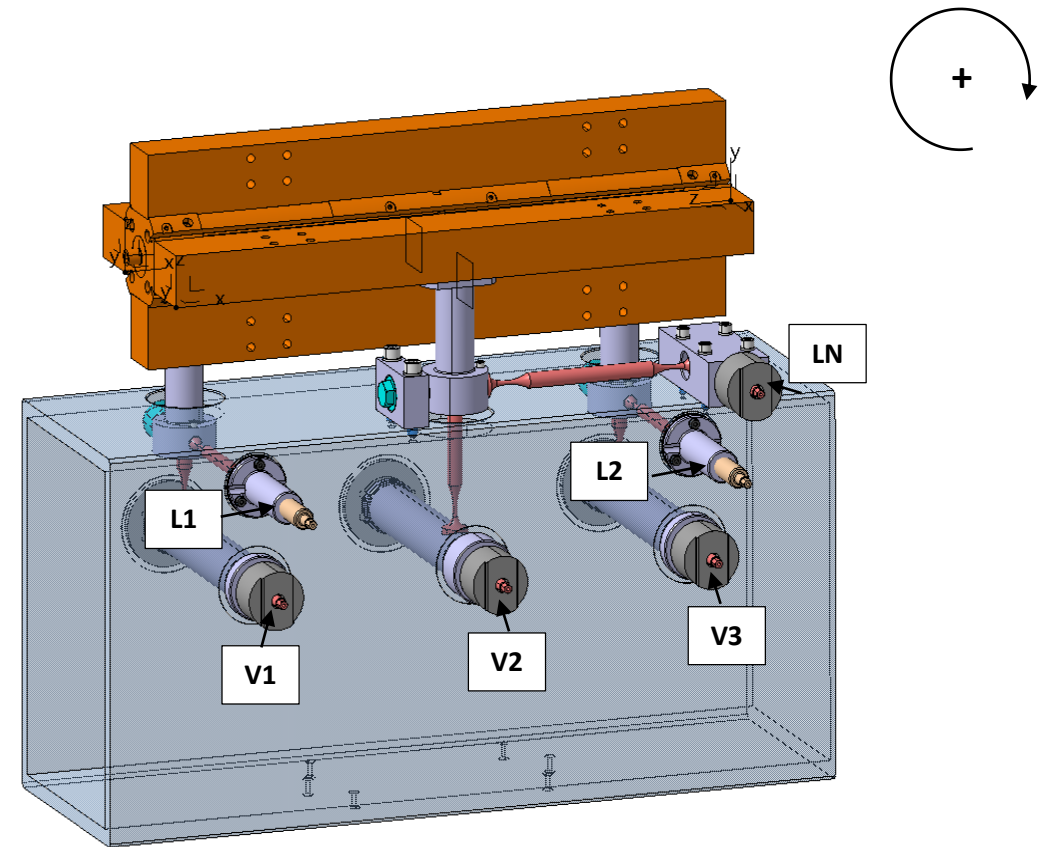


# Updated SAS Adjustment Prototype: Initial Test Results

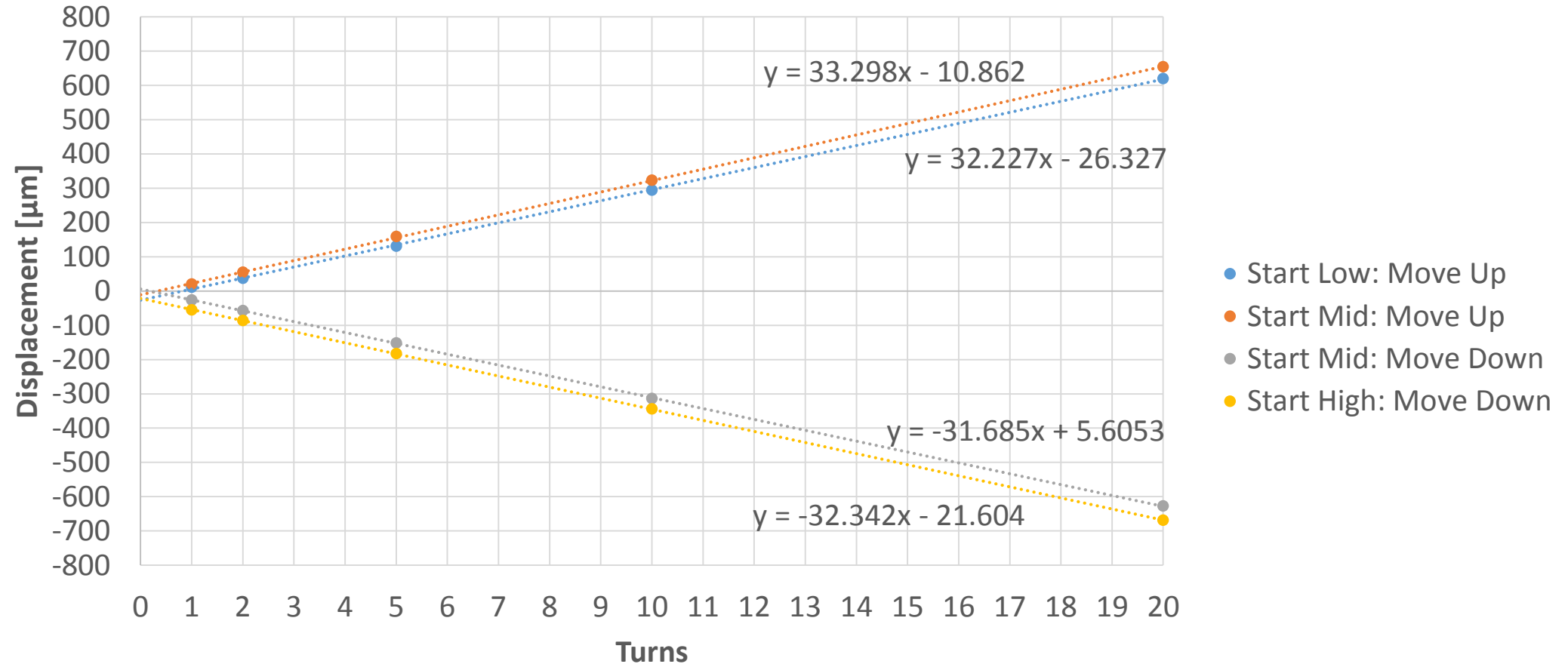
Matthew Capstick

# Test Plan

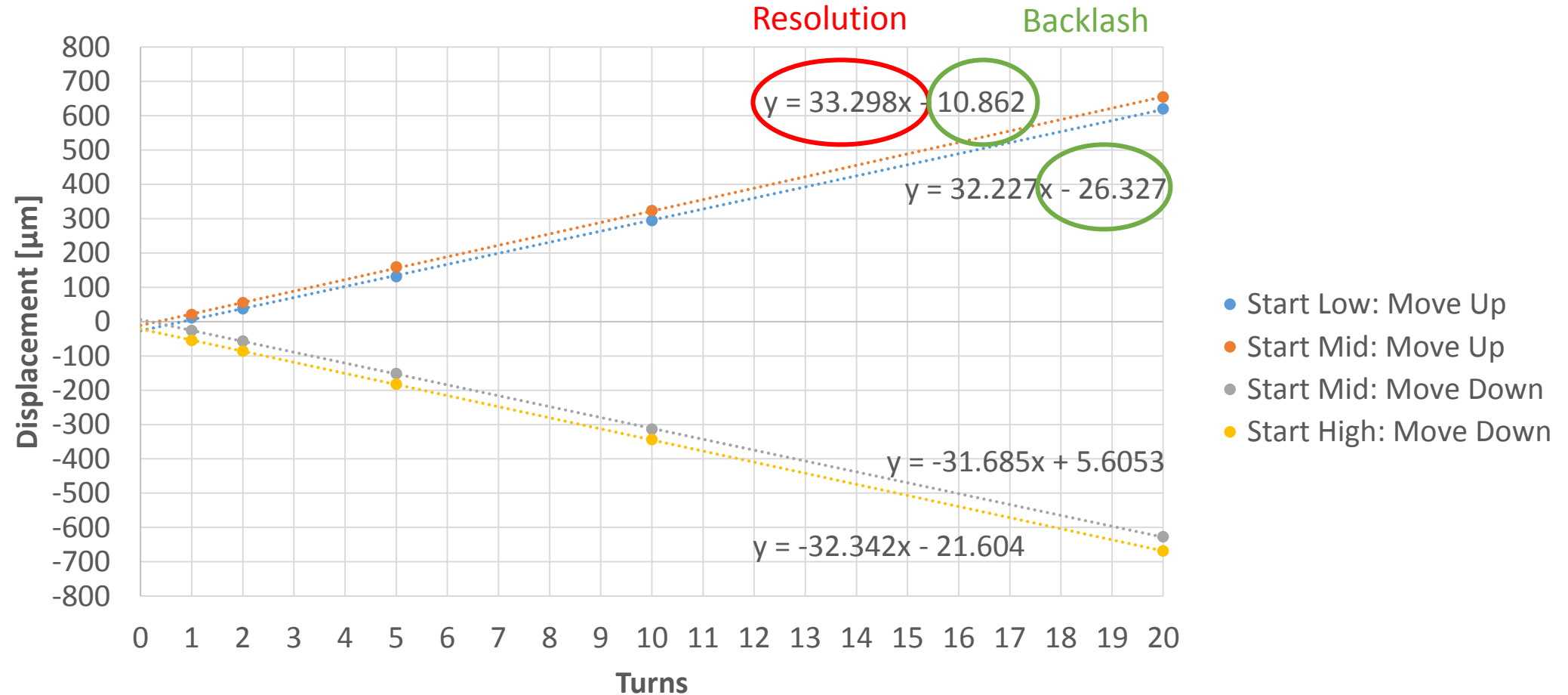
- Each axis is adjusted to:
  - Lowest extreme
  - Middle of travel
  - Highest extreme
- Each point is approached from the other direction to not eliminate backlash
- At each point, the displacement after 1, 2, 5, 10, 20 turns is recorded
  - Measured by a DTI/comparateur positioned on the structure directly in line with the axis under test
- All other axes will be approximately in the centre of travel



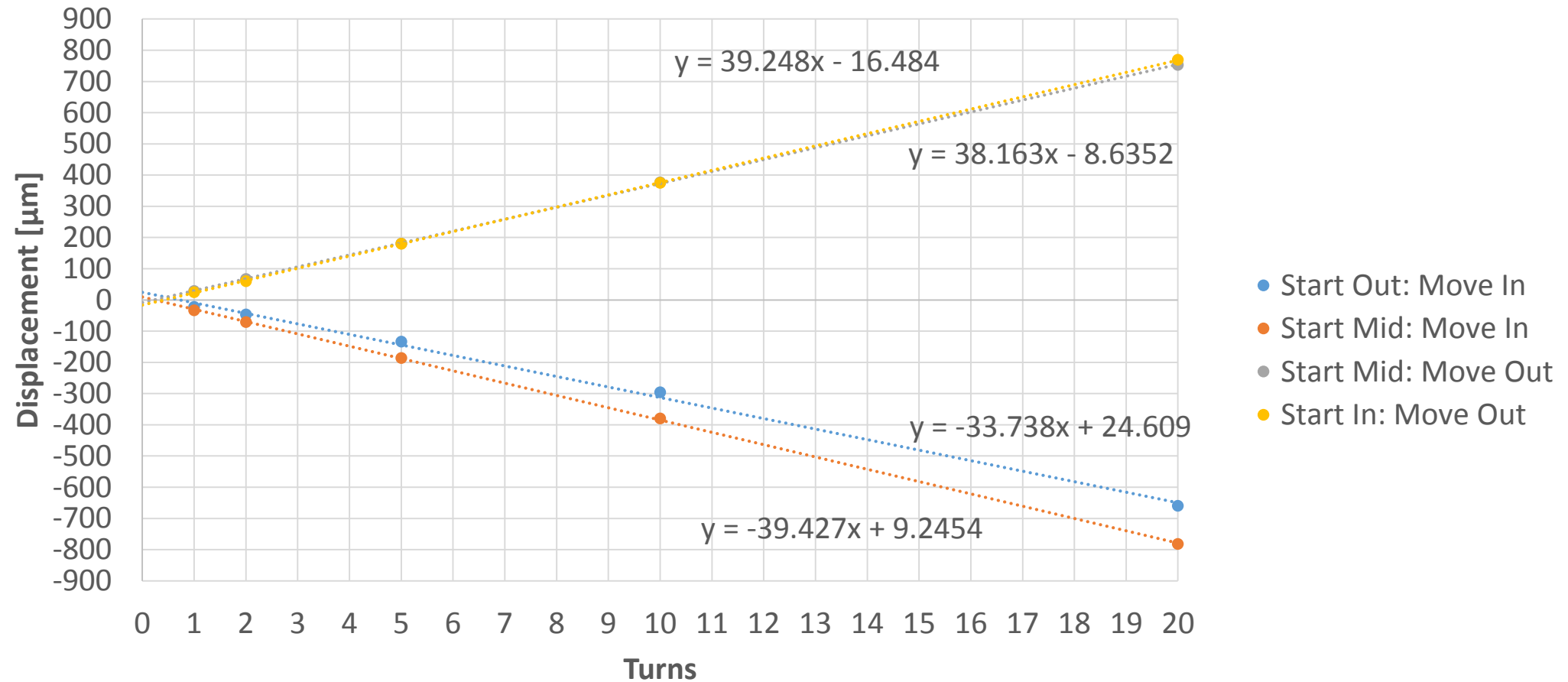
# Vertical Axis 1 (Wedge) Test



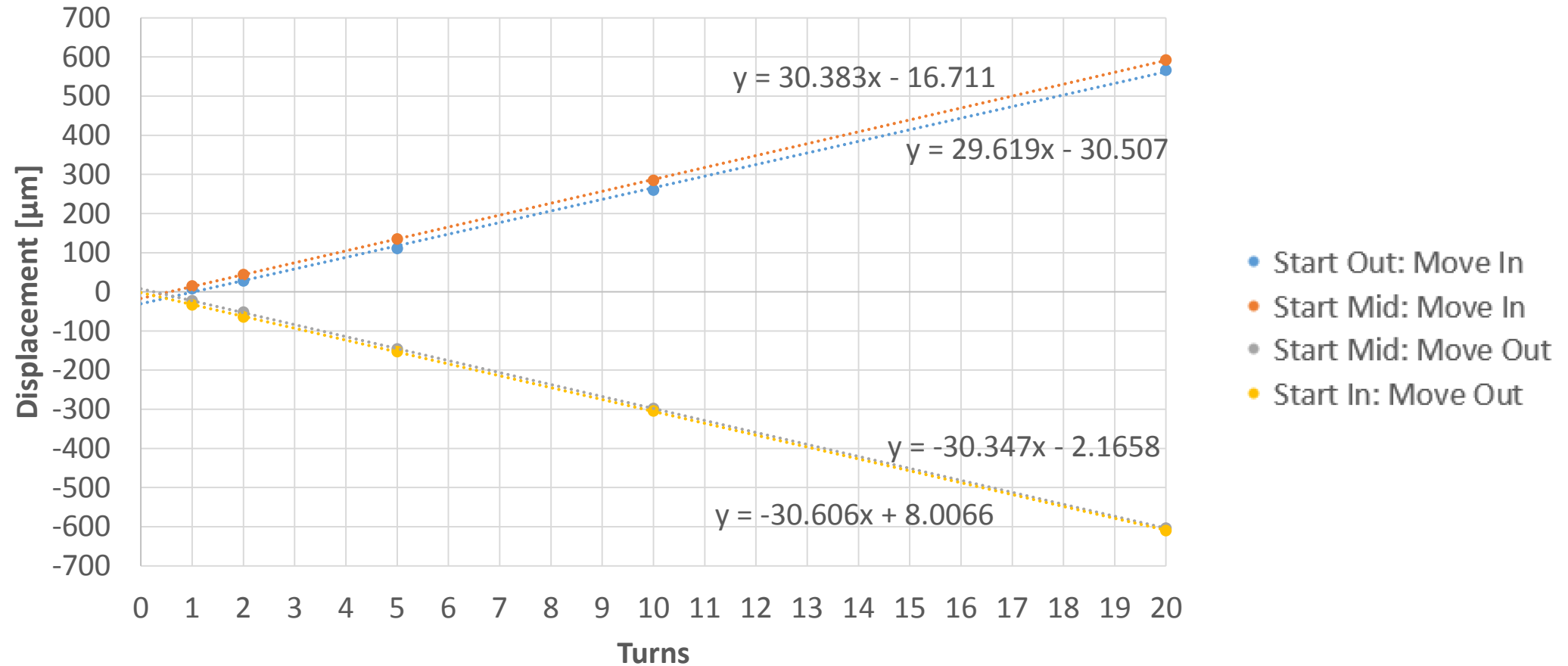
# Vertical Axis 1 (Wedge) Test



# Lateral Axis 1 (Differential Screw) Test

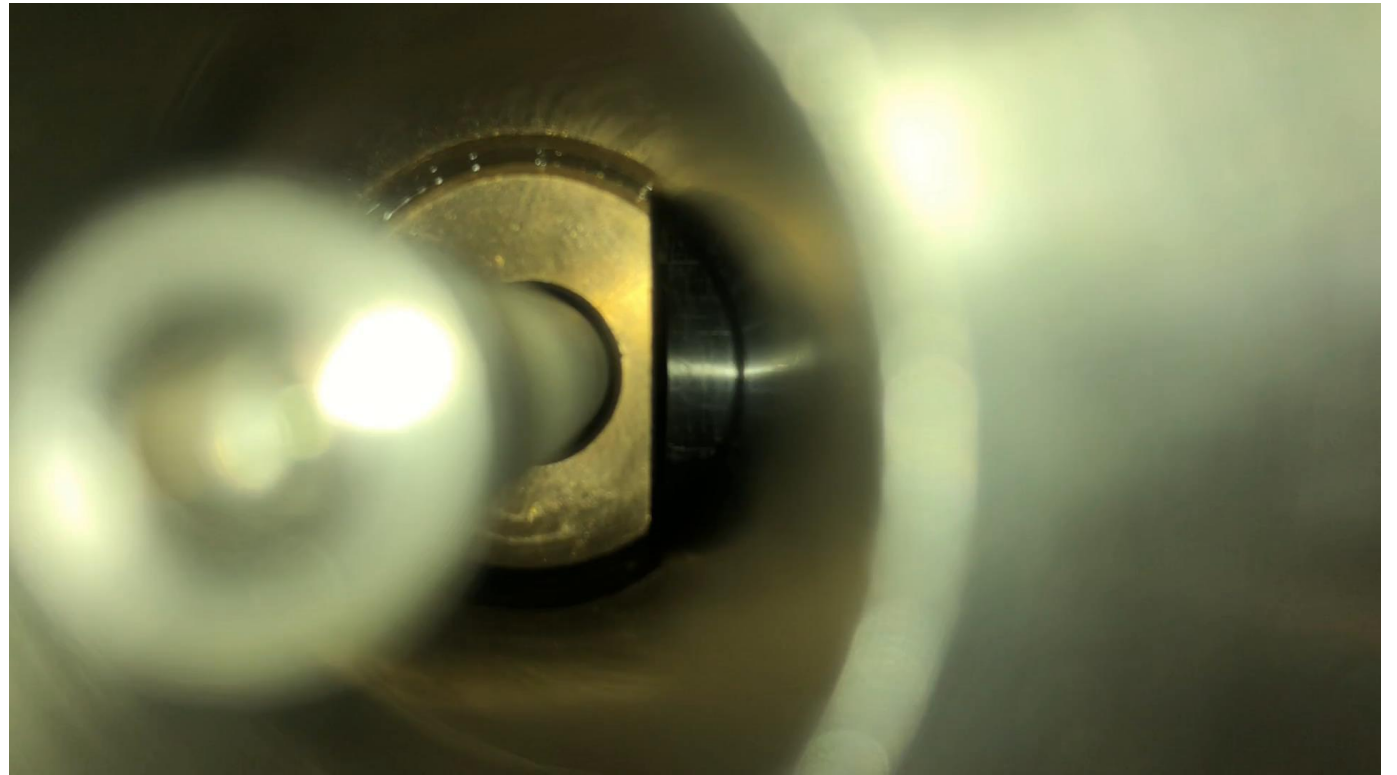


# Longitudinal Axis (Wedge) Test



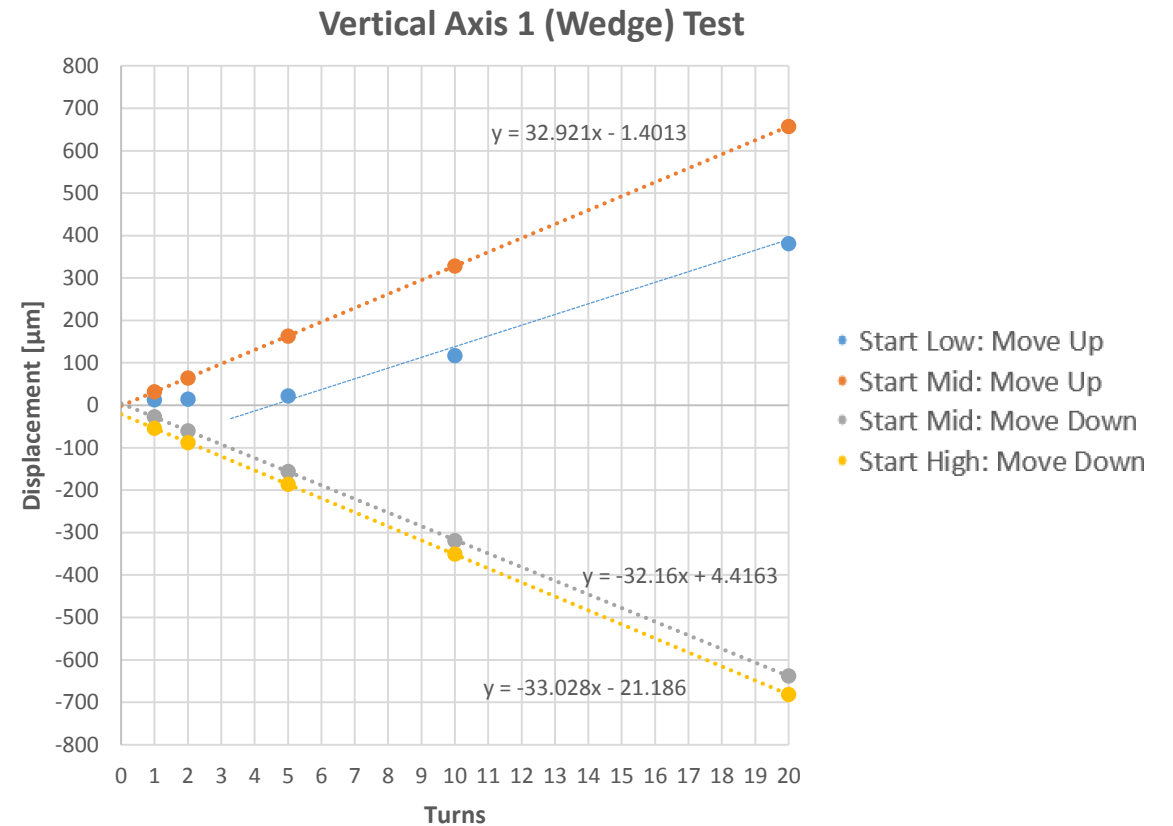
# Longitudinal Axis

- Initially the wedge was losing contact with the fork before reaching the end of travel
  - This could be seen by looking down the tube
- This seems to have been corrected by regreasing the fork and swapping in a stiffer spring
  - Video shows fork and wedge moving correctly



# Vertical Axes 1 & 2

- A repeat of the vertical axes 1 & 2 tests the following day showed a lot of backlash from the bottom of travel
  - ~5 turns without recording any displacement
- This seems to be due to the wedges loosing contact with the fork





# Vertical Axes 1 & 2

- Video appears to confirm the fork is losing contact with the wedge
  - Exact cause is unknown, especially as it did not occur during the first tests
- We cannot increase the spring force (as we did for the longitudinal axis) without adding tension springs to the design
  - Might be fixable by loosening the tolerance between the tube and the fork
  - Or simply regreasing



