

Start Counter Construction Update

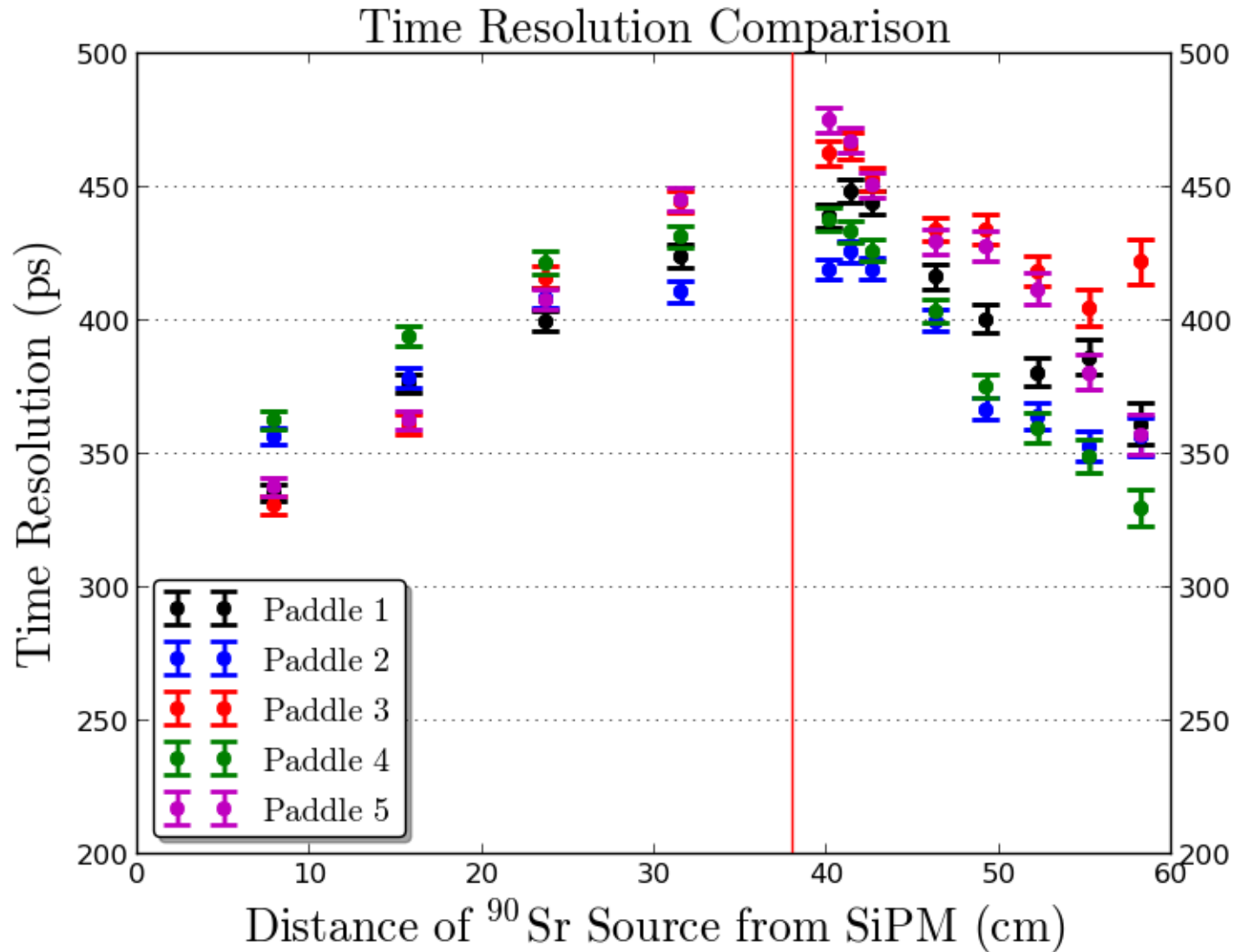
Eric Pooser

08/21/2014

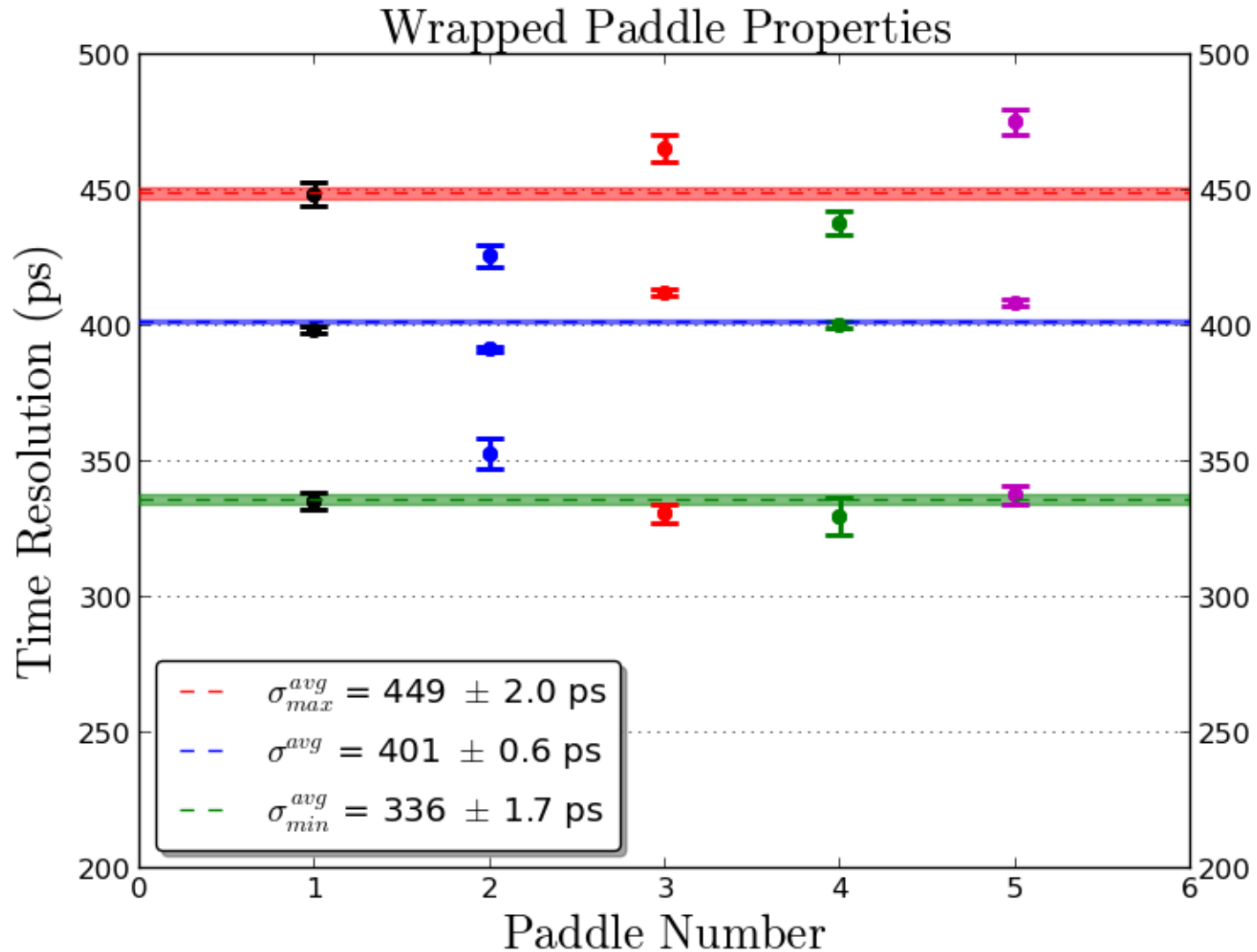
Current Status

- The 30 best scintillators have been selected and fully tested
- Rohacell support has been painted black and all gaps have been filled with black caulking
- Shimming height has been determined (some materials are yet to be delivered)
 - We require approximately 30 mils (762 μm) of shimming
 - Material is Kapton polyimide heavy duty film (type HN $\rho = 1.42 \text{ g/cc}$)
 - All ST1 PCBs have been positioned so that all paddles require approximately the same shimming height of 30 mils (20 mil < shim < 40 mil)
- Final construction of the Start Counter is underway

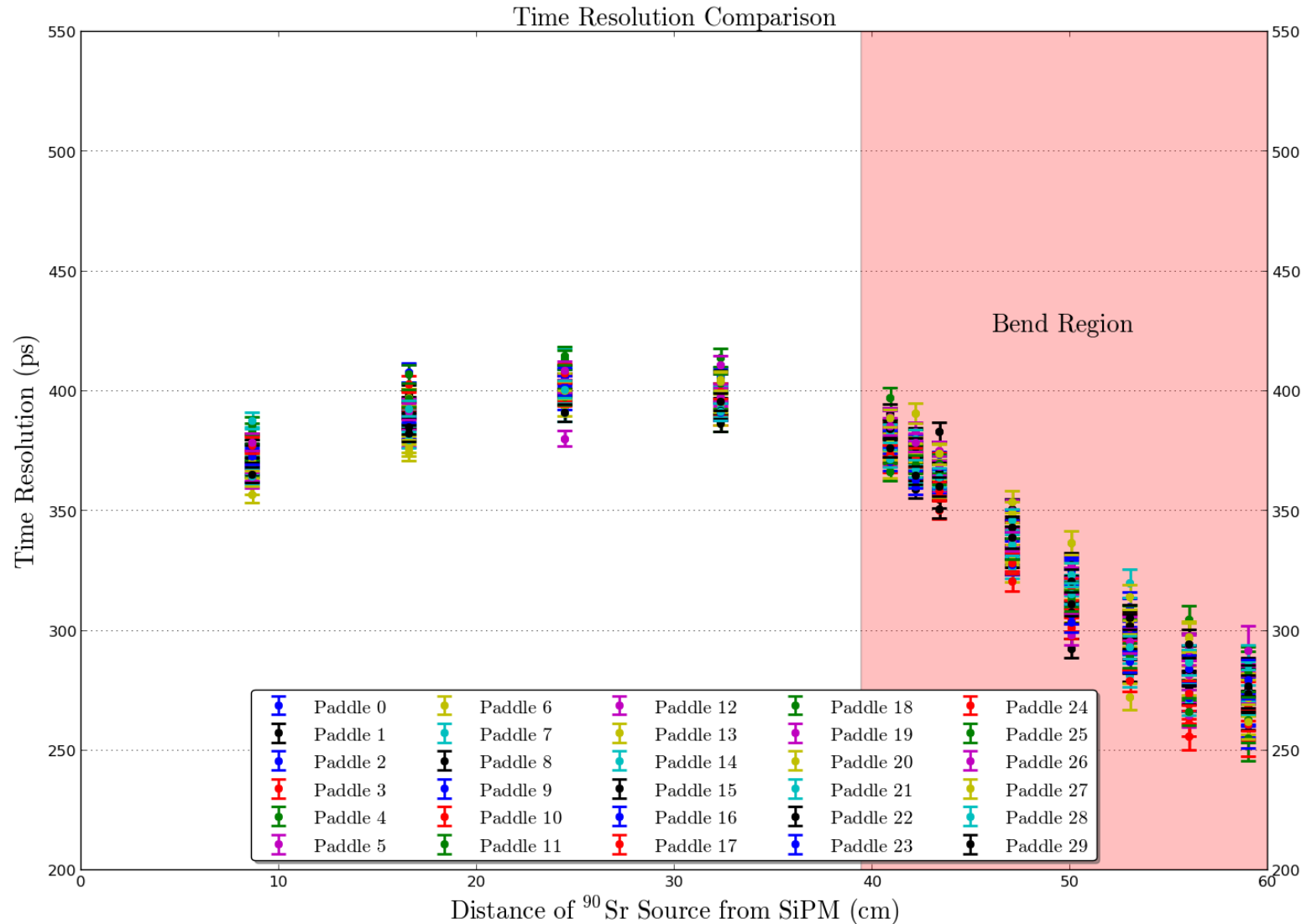
Wrapped Prototype Results



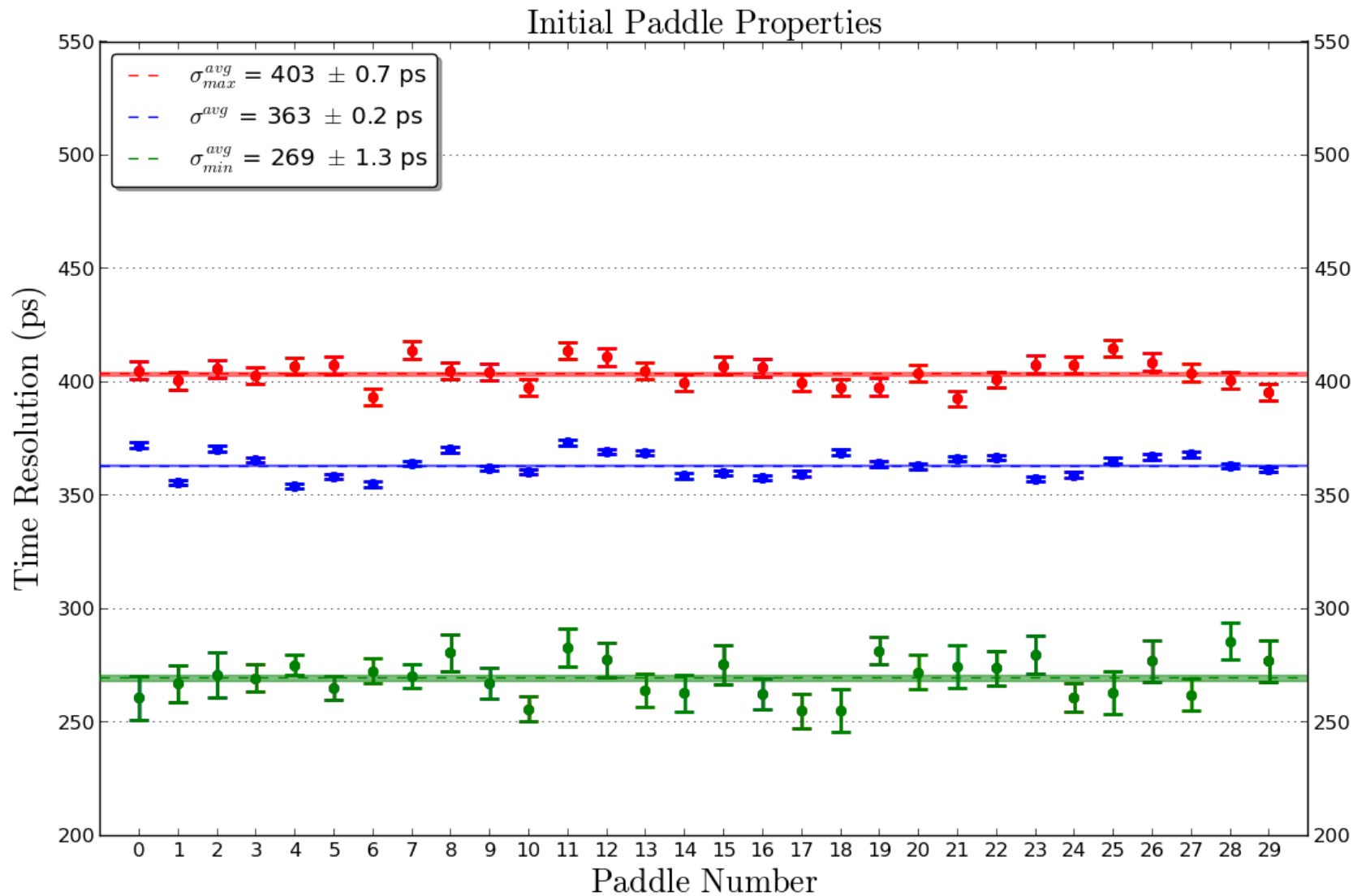
Wrapped Prototype Results (continued)



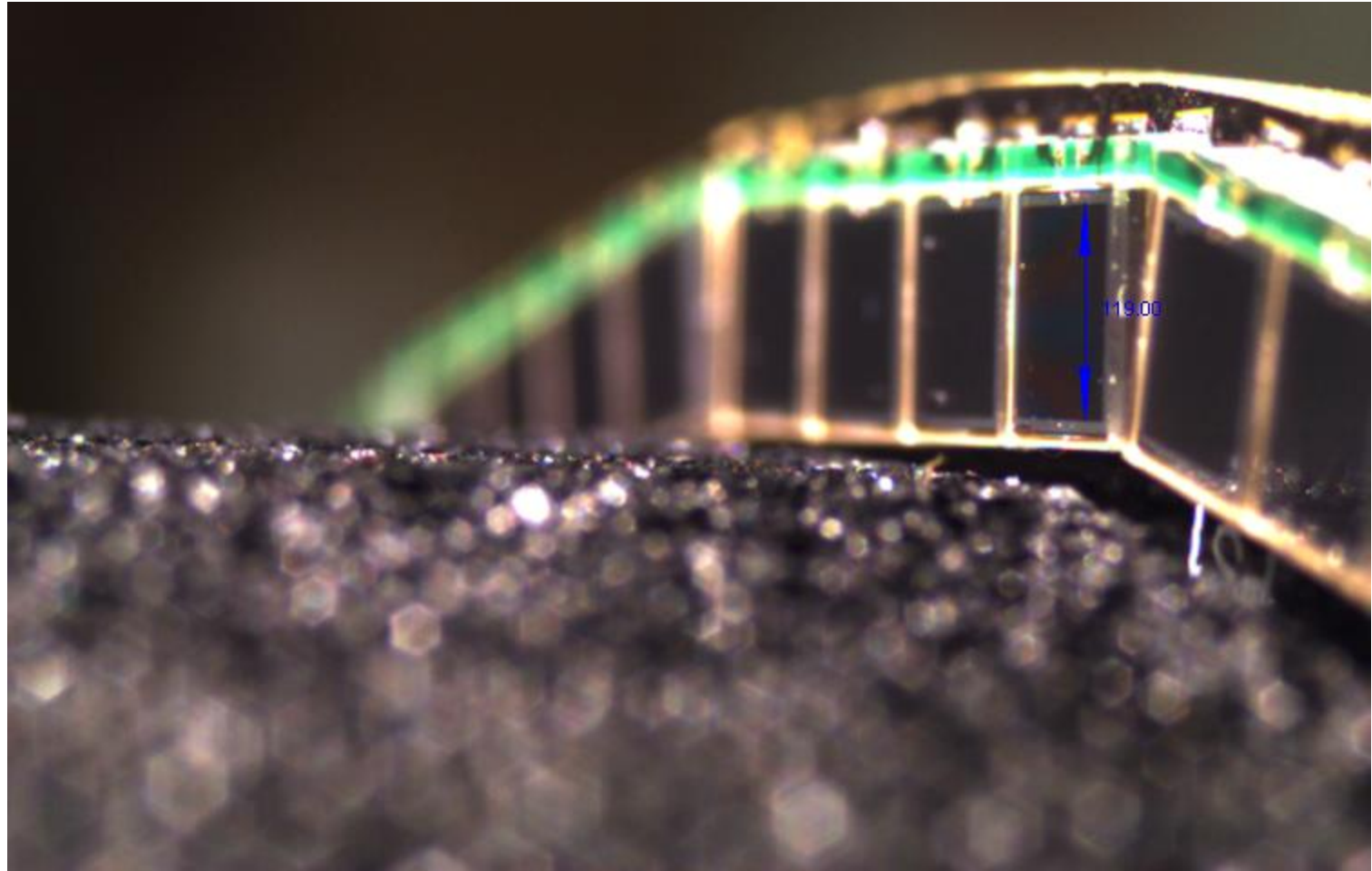
Results of Best 30 Paddles Wrapped



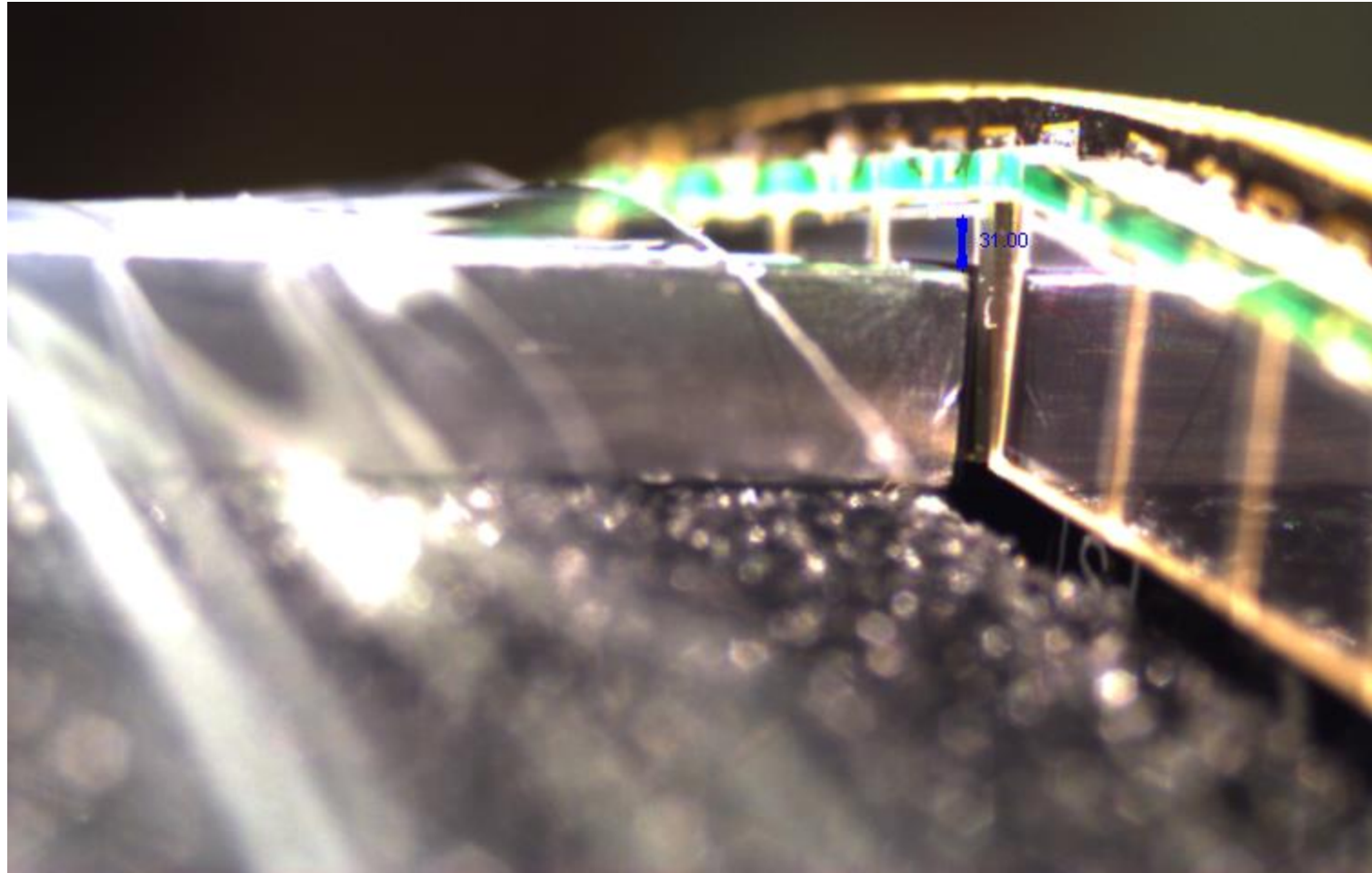
Results of Best 30 Paddles Wrapped (continued)



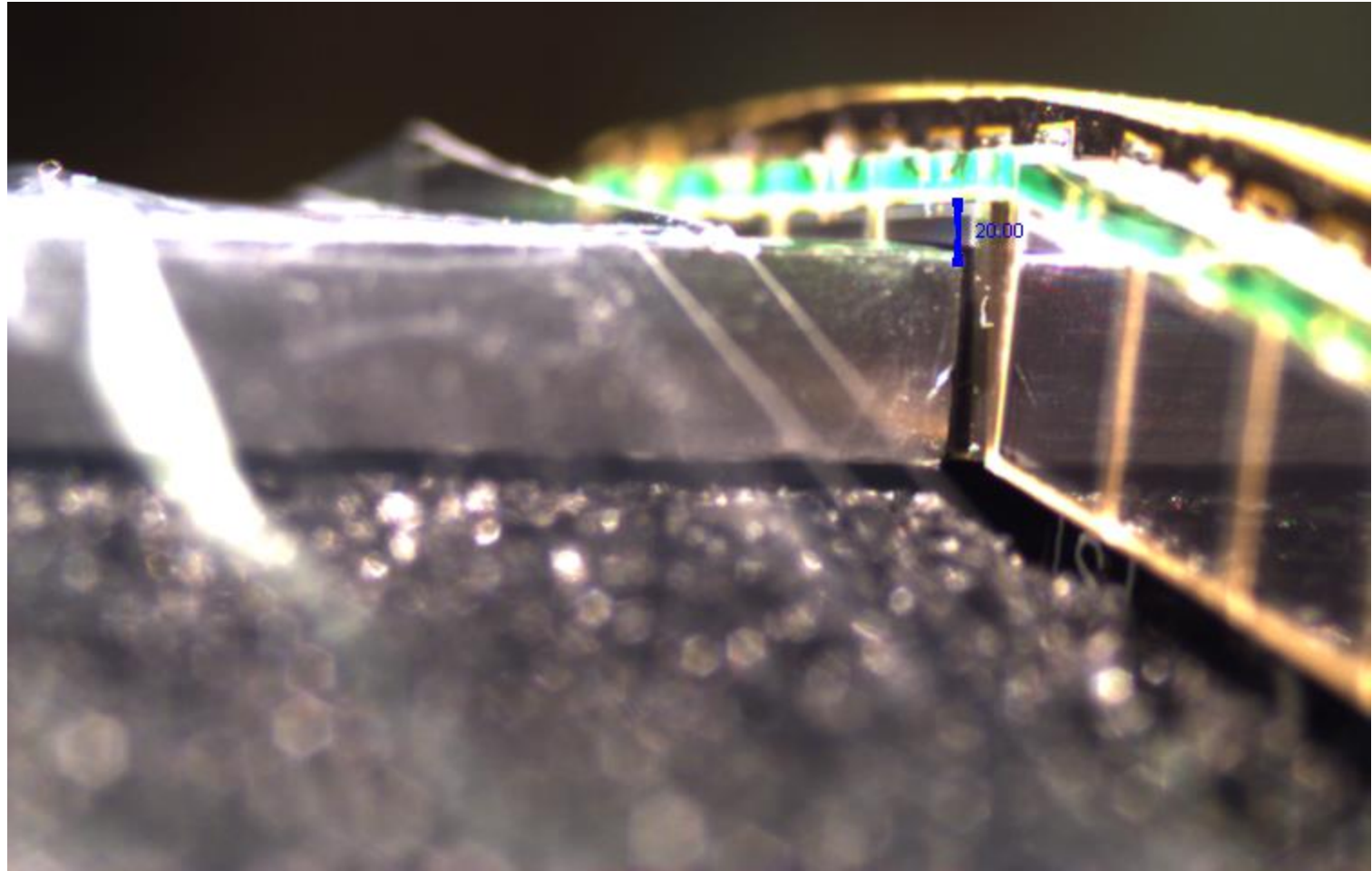
Calibration Measurement (3.02 mm)



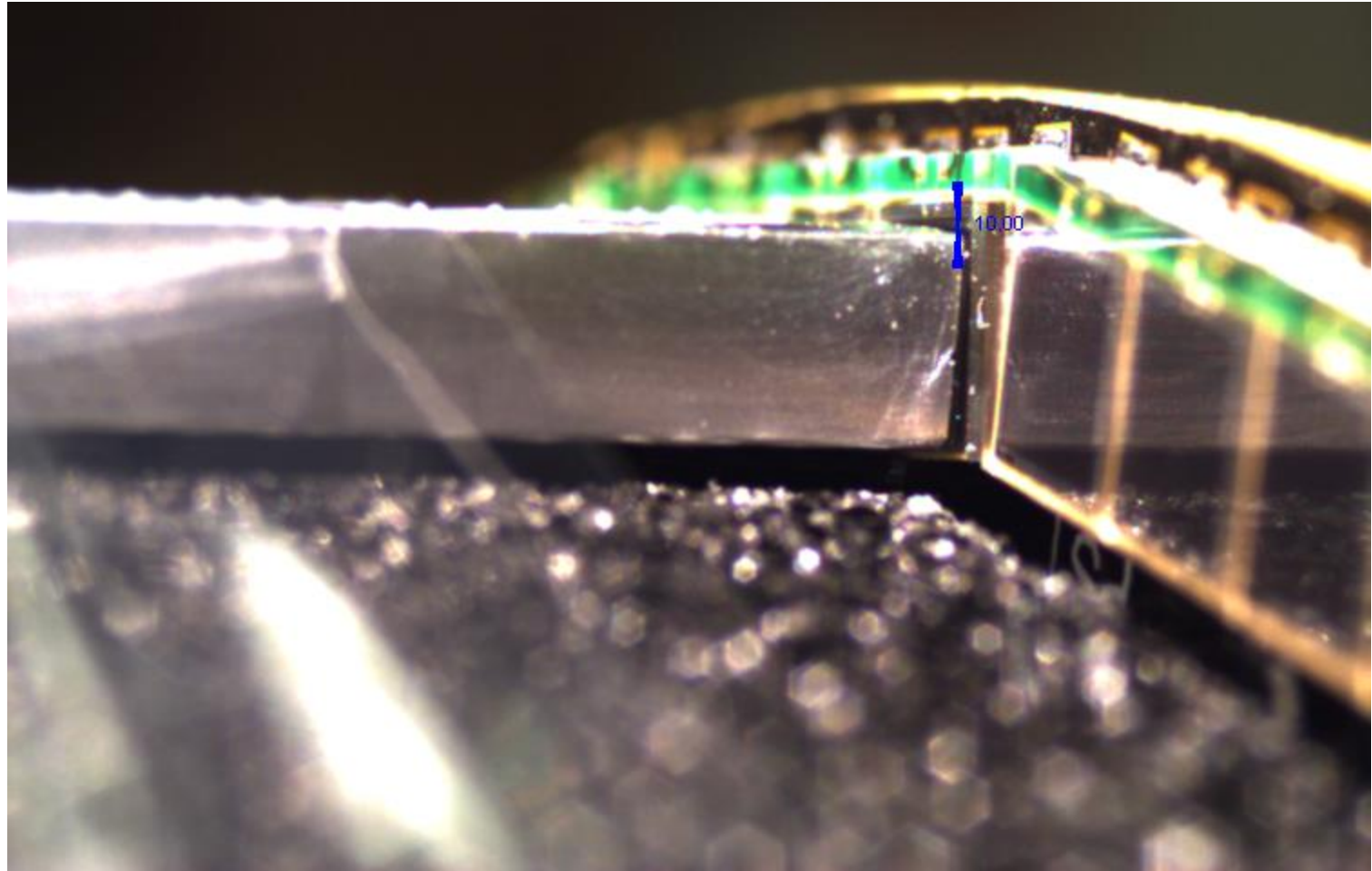
No Shimming (786 μm)



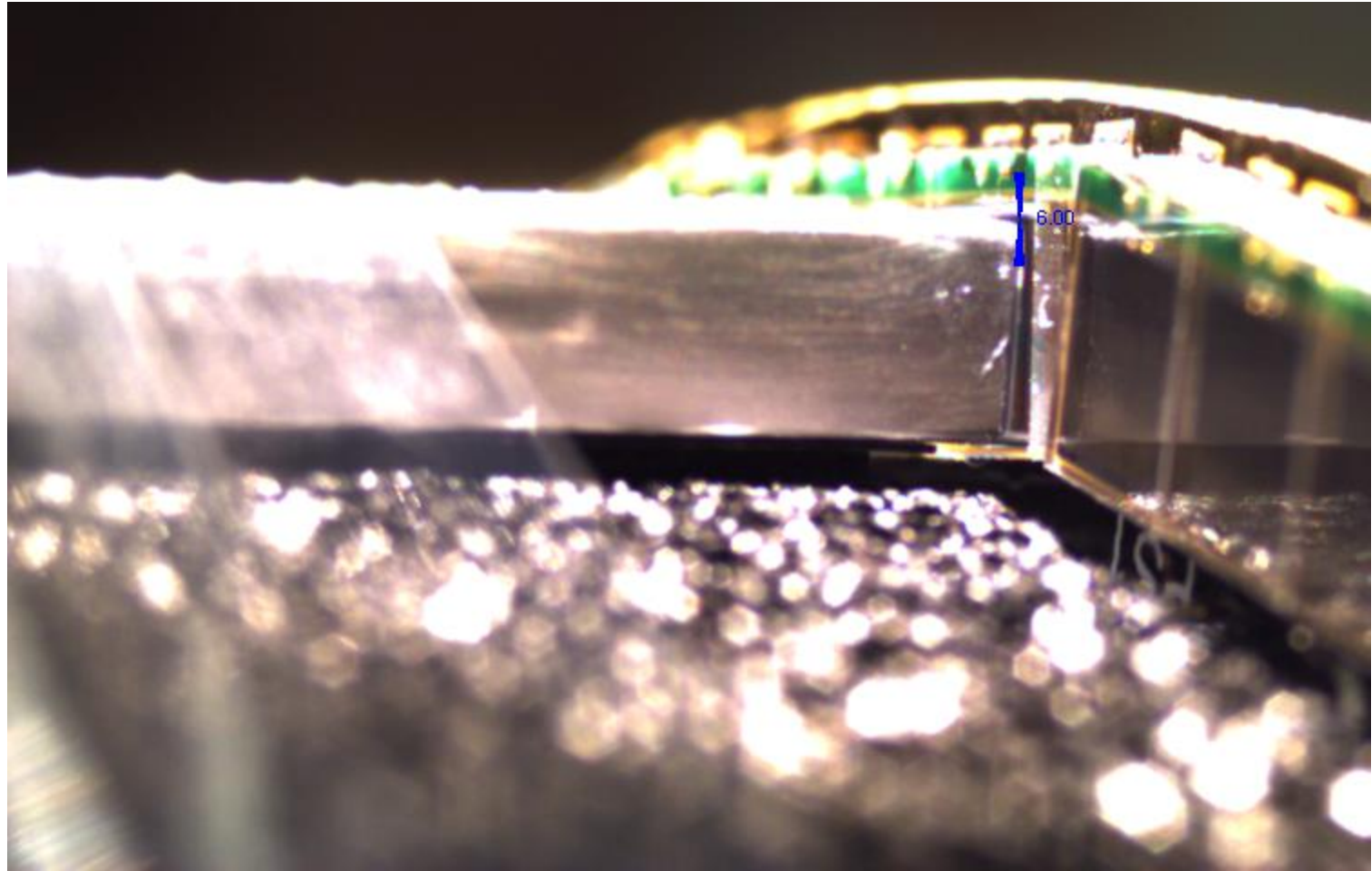
10 mil Shimming (507 um)



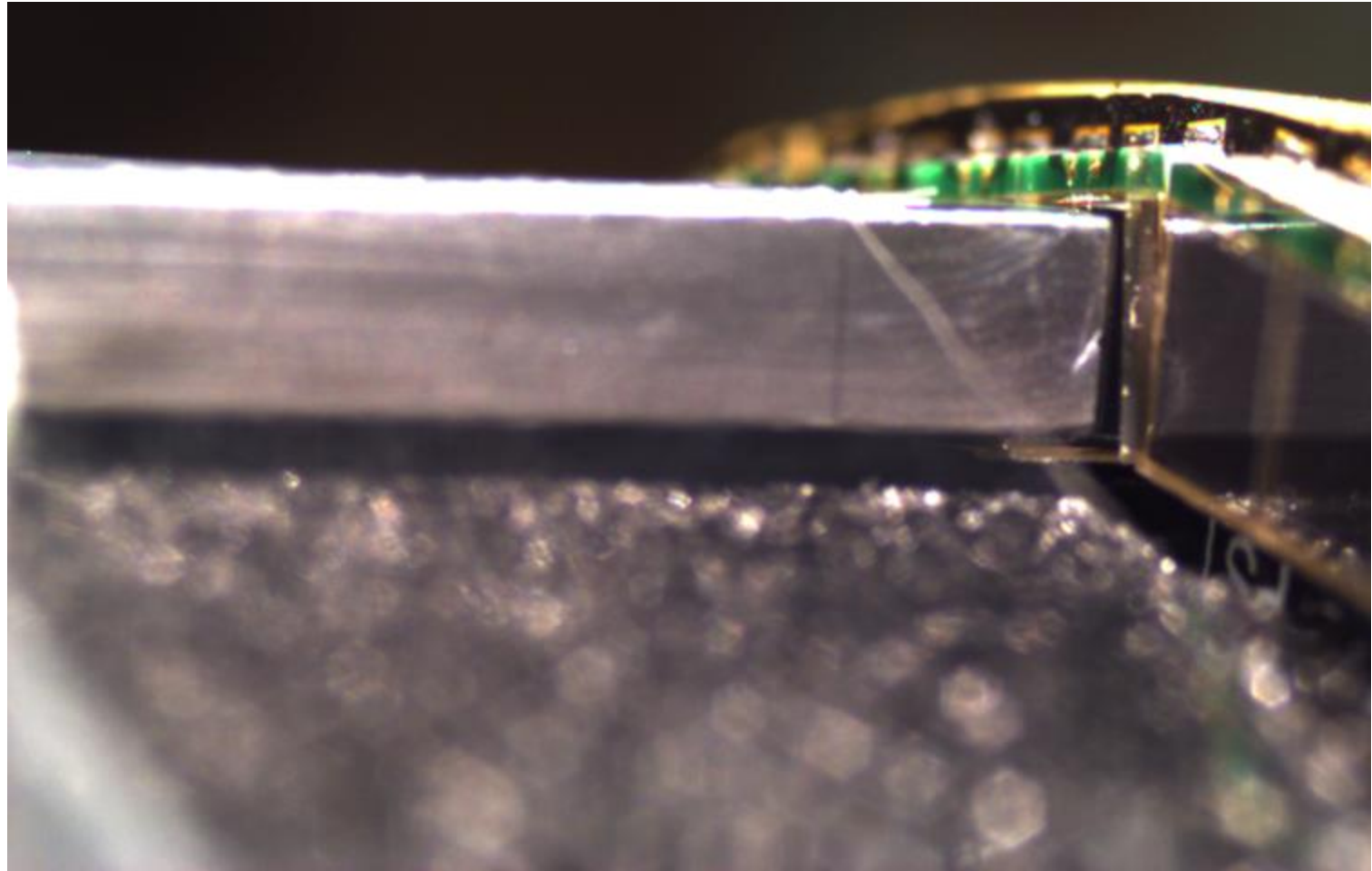
20 mil Shimming (254 um)



25 mil Shimming (152 um)



30 mil Shimming (Best Possible Alignment)



Future Plans

- Fully Assemble Start Counter by Friday (08/22/2014)
 - This includes shimming and sub 200 um coupling
- Next Week:
 - Wrap Start Counter with 80 gauge (0.8 mil) Bundling Wrap
 - Finalize Start Counter Construction
 - Verify all 30 channels are able to be read out
 - Use ^{90}Sr source to verify that all signal sizes are identical
- Prepare Start Counter for transportation to Jlab
- Ship MPOD, cables, and tools back to Nick
- Deliver Start Counter to Jlab 09/02/2014

Topics for Discussion

- Documentation for delivery of Start Counter
- Schedule upon arrival at JLab (09/02/2014)
 - Light tightening
 - Testing of read out channels
 - Mounting to target
 - Survey & Alignment
 - Installation into Hall
 - Commissioning/Calibration