

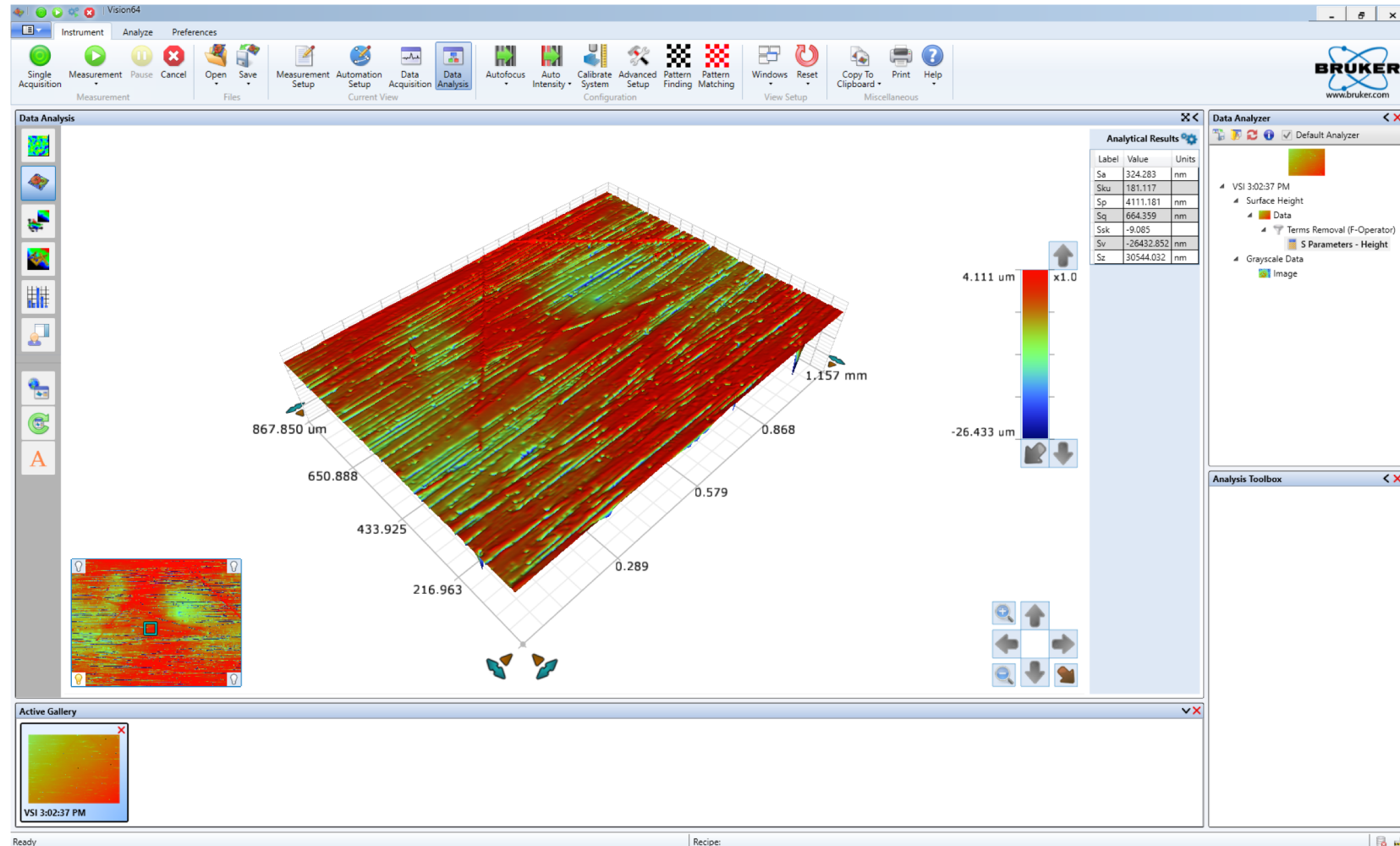
Surface Roughness Measurements for Mirror Substrates – on-going / partial results

6th November 2023

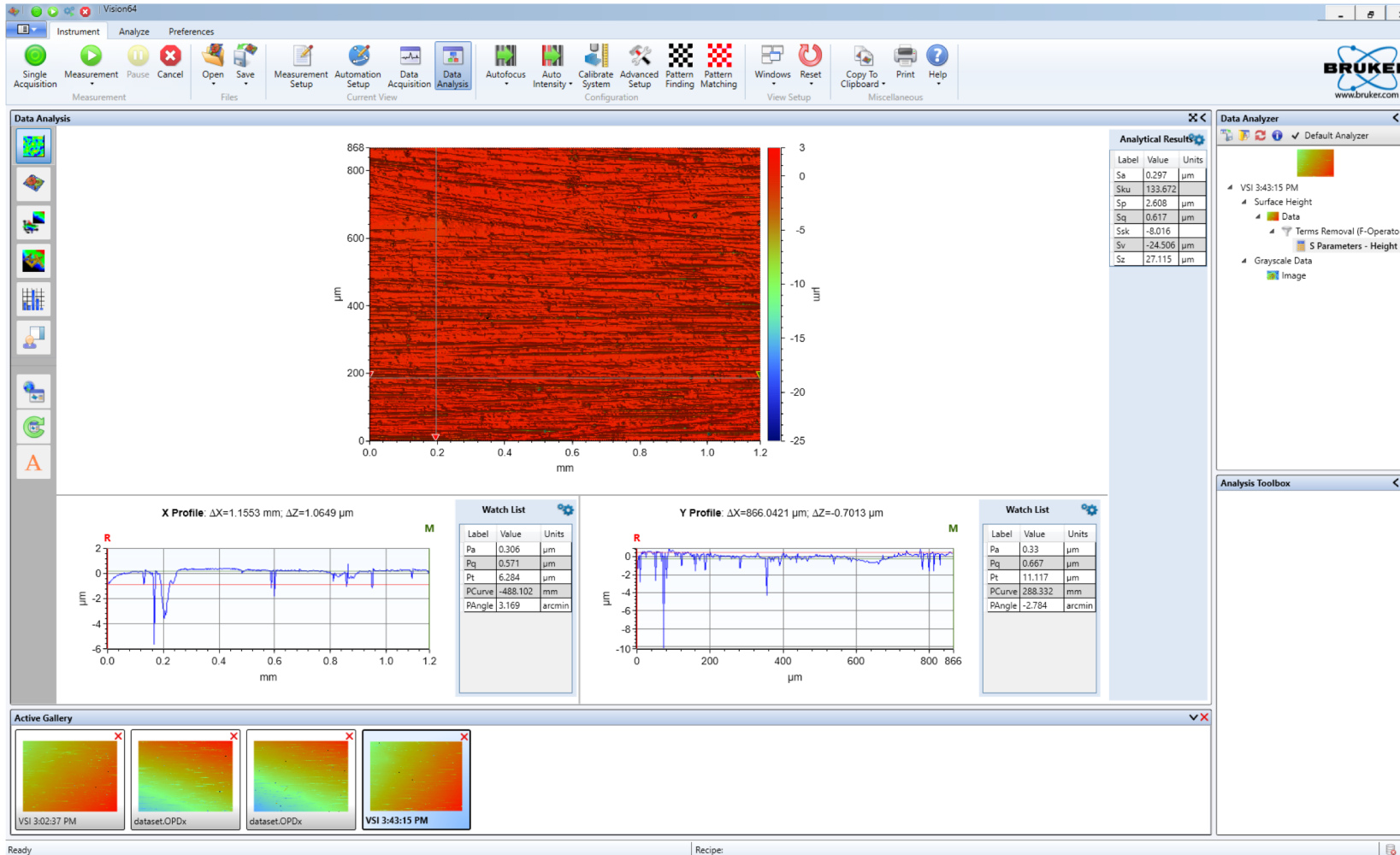
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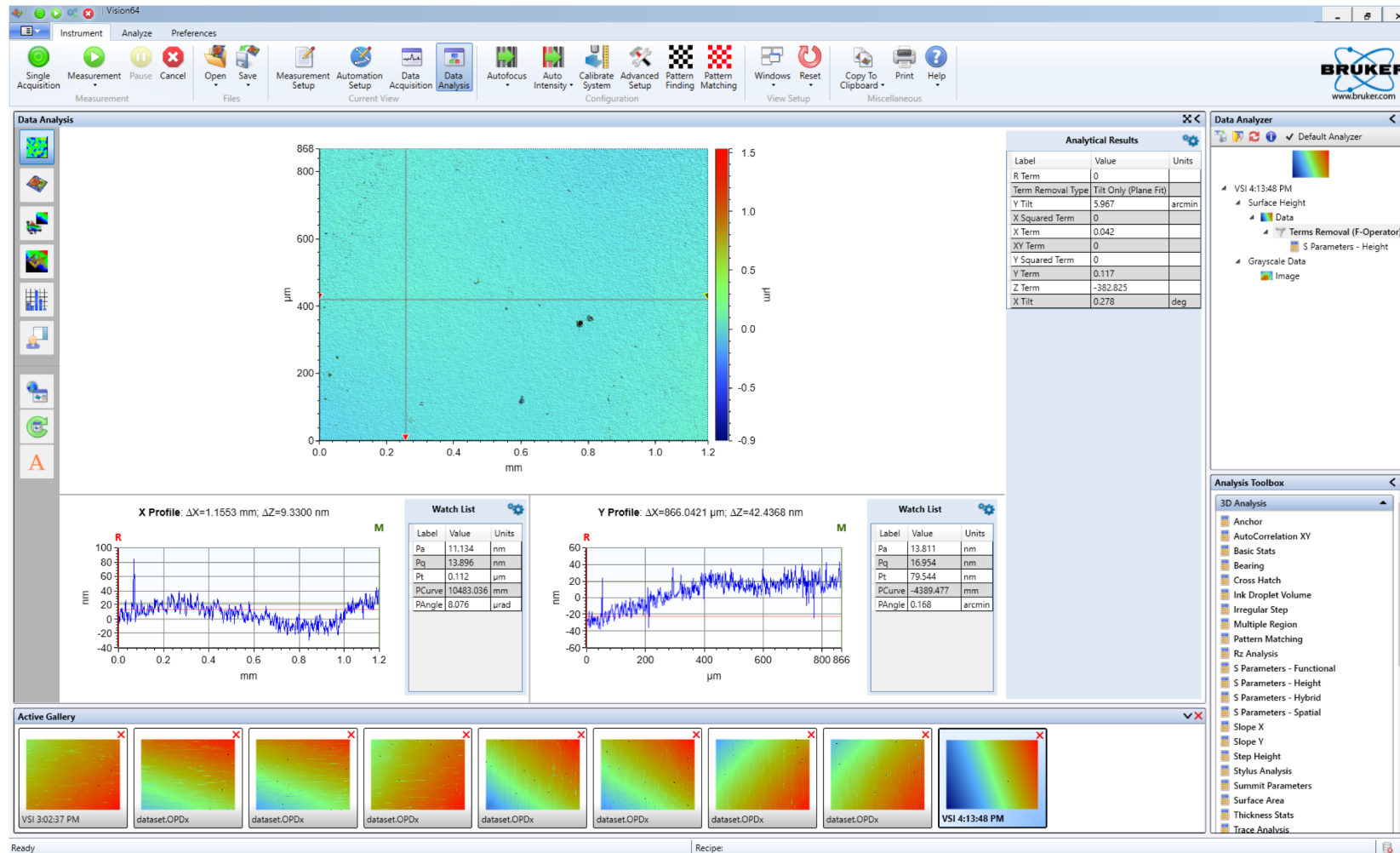
3d surface profile of polymer substrate using BRUKER profilometer at Kepner Labs



2d surface profile of polymer substrate using BRUKER profilometer at Kepner Labs



2d surface profile of Mirror using BRUKER profilometer at Kepner Labs



Batch 3B Sample #1 – Carbon fiber substrate sample from
Purdue – Front side – using glass mold

Position on front side(mm)	Ra (nm)	Rq (nm)	N grade
(-5,-5)	285	537	5
(0,-5)	319	618	5
(0,0)	318	603	5
(-5,0)	342	596	5
Average	316	589	5

Batch 3B Sample #1 – Carbon fiber substrate sample from
Purdue – back side – using glass mold

Position on back side(mm)	Ra (nm)	Rq (nm)	N grade
(-5,-5)	348	860	5
(0,-5)	413	946	5
(0,0)	274	606	5
(-5,0)	230	381	4
Average	316	698	5

Mirror surface from SBU

Position on mirror (mm)	Ra (nm)	Rq (nm)	N grade
(-3,-3)	10.3	13.1	1
(0,-3)	13.3	27	1
(3,-3)	10.9	13.5	1
(-3,0)	10.8	13.6	1
(0,0)	12.6	15.6	1
(3,0)	9.6	12.1	1
(-3,3)	11.1	14.2	1
(0,3)	10.8	13.1	1
(3,3)	9.6	12.3	1
Average	11.0	14.9	1

On going measurements – Nov 6, 2023

- 3d printed tool surface with and without coating
 - Carbon composite base substrate prototypes made from 3d printed tools
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- Results expected by Nov 20, 2023