

The effect of numerical aperture on quantitative use-wear studies and its implication on reproducibility

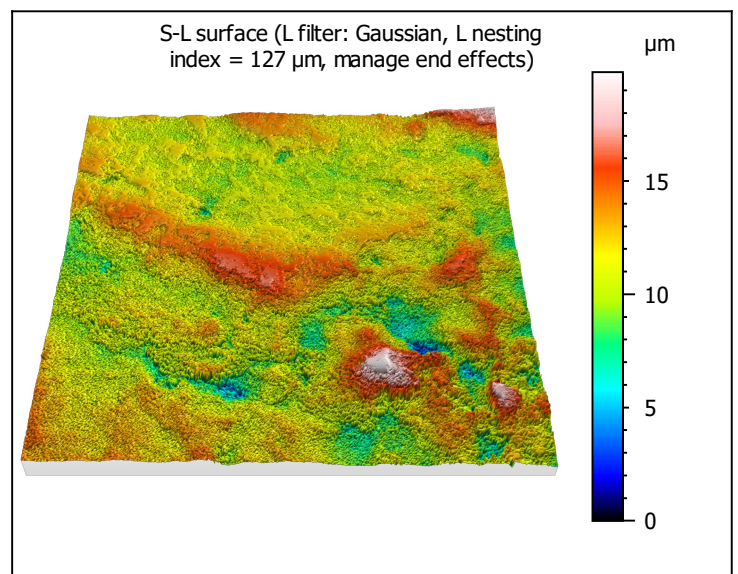
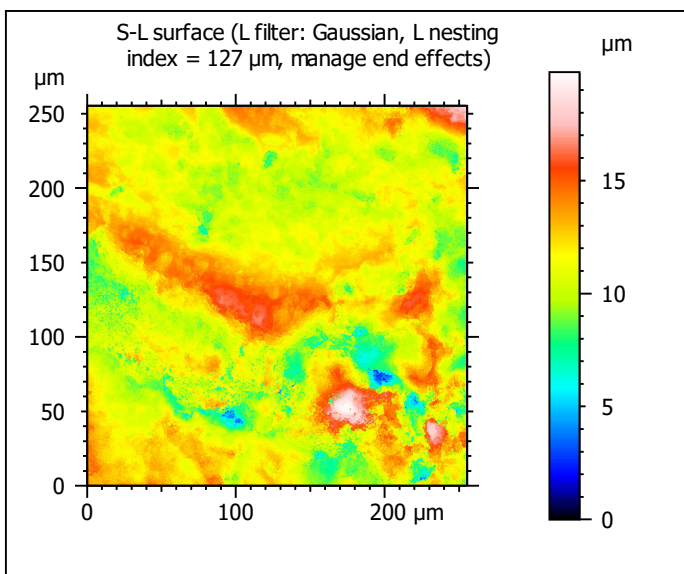
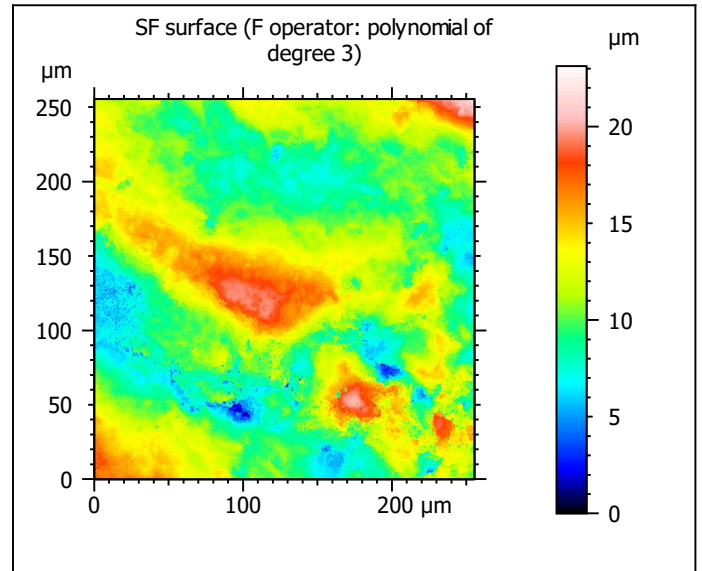
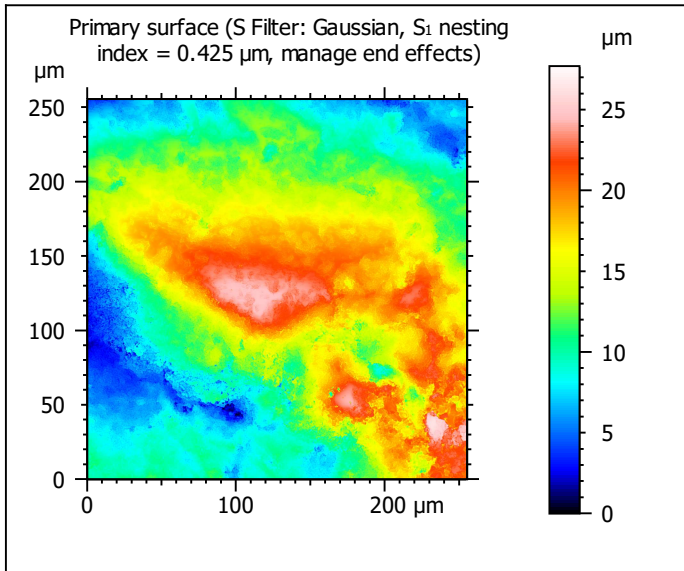
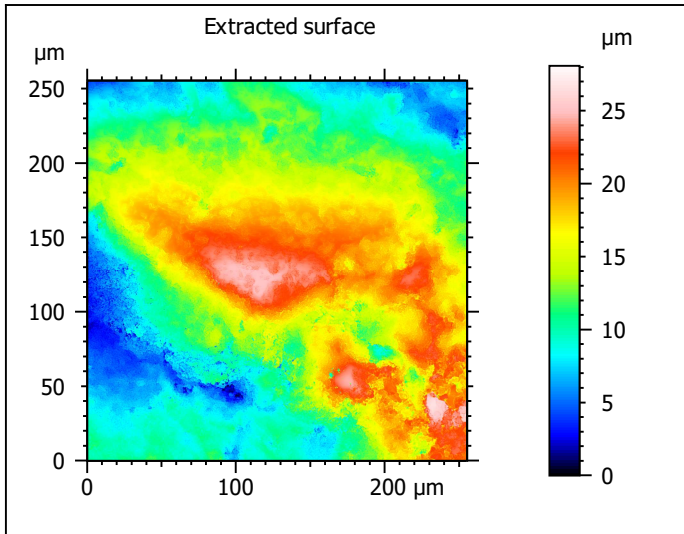
Ivan Calandra, Lisa Schunk, Konstantin Bob, Walter Gneisinger, Antonella Pederghana, Eduardo Paixao, Andreas Hildebrandt, Joao Marreiros

Scientific Reports

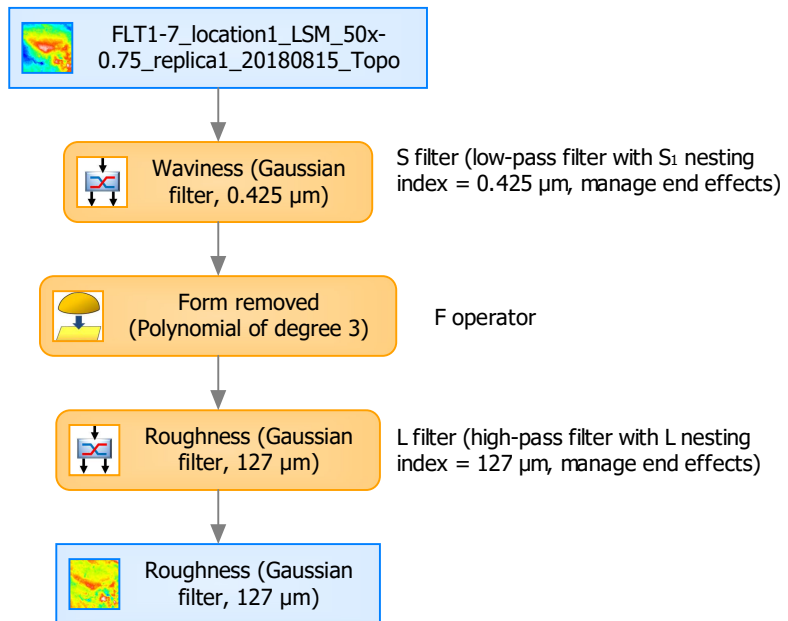
Supplementary Material 2. PDF export of the results of the ConfoMap template applied to all analyzed surfaces. Editable *.mnt files (which include the unprocessed surfaces) are available on Zenodo (DOI: <https://doi.org/10.5281/zenodo.1479117>).

Flint FLT1-7
50x objective, NA = 0.75 or 0.95

Identity card - FLT1-7_location1_LSM_50x-...			
Name:	FLT1-7_location1_LSM_50x-0.75_replica1_2018...		
Created on:	8/15/2018 4:30:26 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	28.1	μm	
Size:	65532	digits	
Spacing:	0.428	nm	
NMP ratio:	0.00 % (0 Pts)		

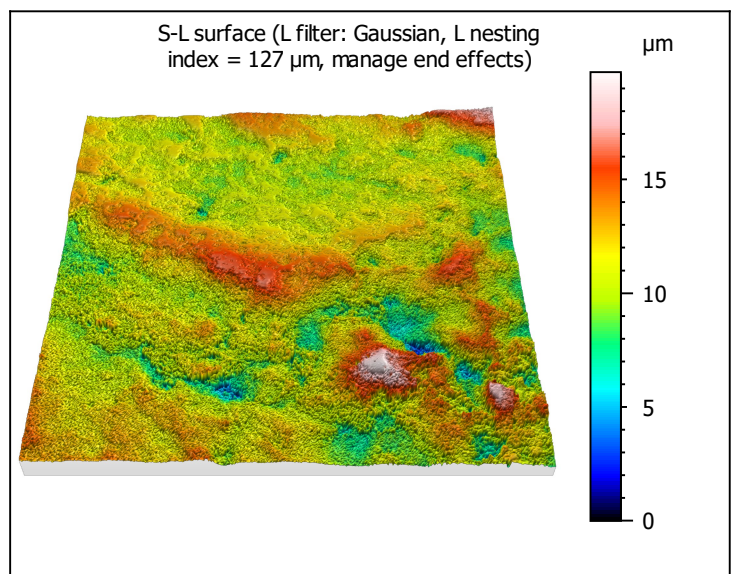
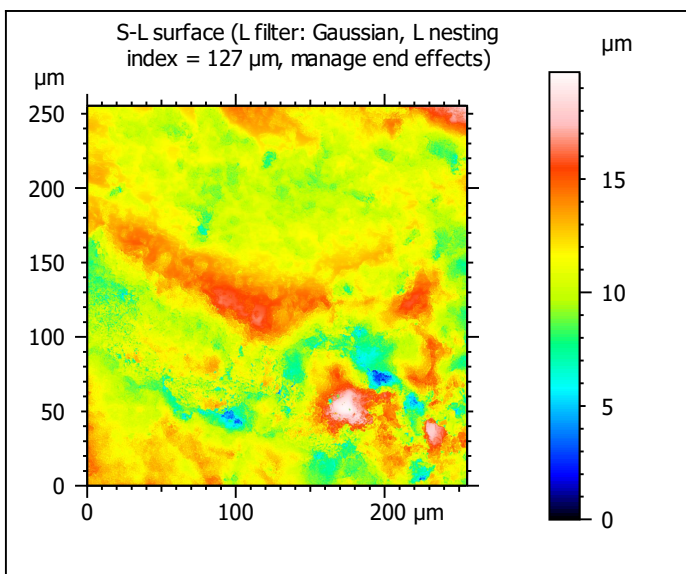
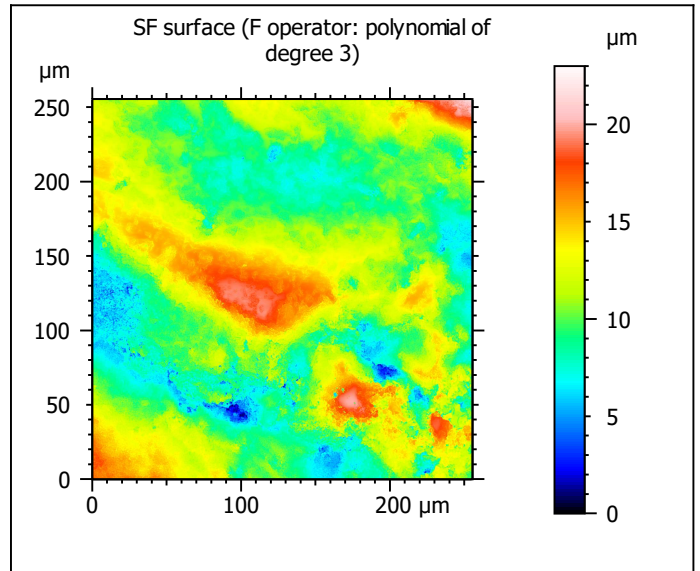
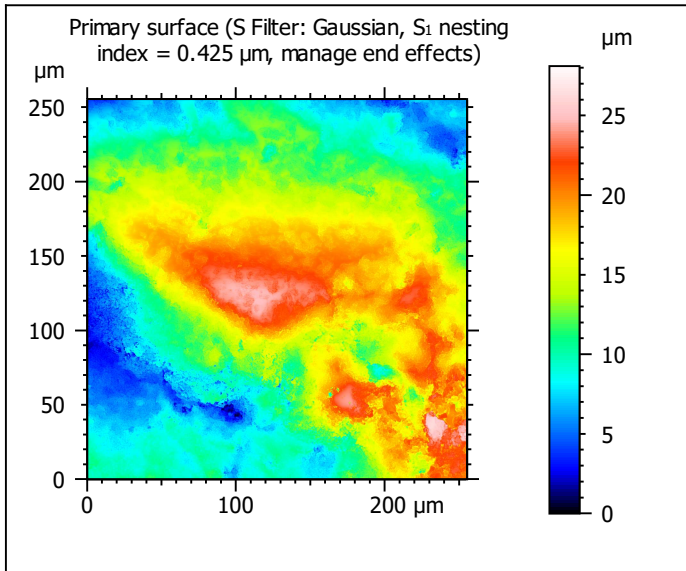
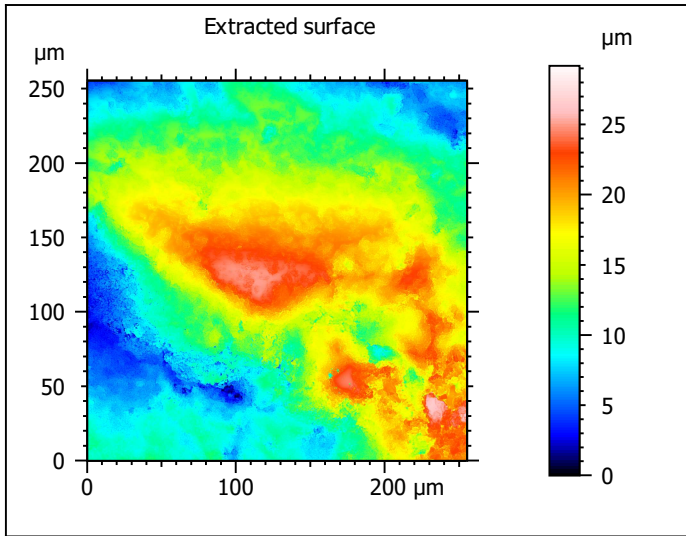


ISO 25178		
Height Parameters		
Sq	1.92	μm
Ssk	0.251	
Sku	4.41	
Sp	8.40	μm
Sv	11.4	μm
Sz	19.8	μm
Sa	1.45	μm
Functional Parameters		
Smr	0.154	%
Smc	2.42	μm
Sxp	3.56	μm
Spatial Parameters		
Sal	17.2	μm
Str	0.504	
Std	166	°
Hybrid Parameters		
Sdq	2.72	
Sdr	119	%
Functional Parameters (V...		
Vm	0.125	μm ³ /μm ²
Vv	2.54	μm ³ /μm ²
Vmp	0.125	μm ³ /μm ²
Vmc	1.52	μm ³ /μm ²
Vvc	2.32	μm ³ /μm ²
Vvv	0.220	μm ³ /μm ²
Functional Parameters (S...		
Sk	2.71	μm
Spk	1.74	μm
Svk	2.03	μm
Smr1	12.1	%
Smr2	87.6	%
Spq	0.442	
Svq	3.71	
Smq	55.8	

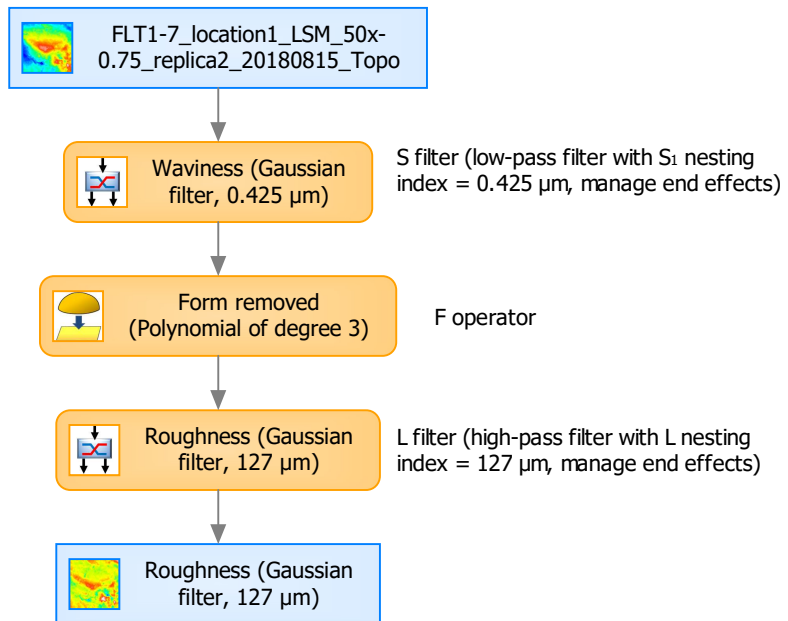


Flint FLT1-7
50x objective, NA = 0.75 or 0.95

Identity card - FLT1-7_location1_LSM_50x-...			
Name:	FLT1-7_location1_LSM_50x-0.75_replica2_2018...		
Created on:	8/15/2018 4:56:32 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	29.2	μm	
Size:	65531	digits	
Spacing:	0.445	nm	
NMP ratio:	0.00 % (0 Pts)		

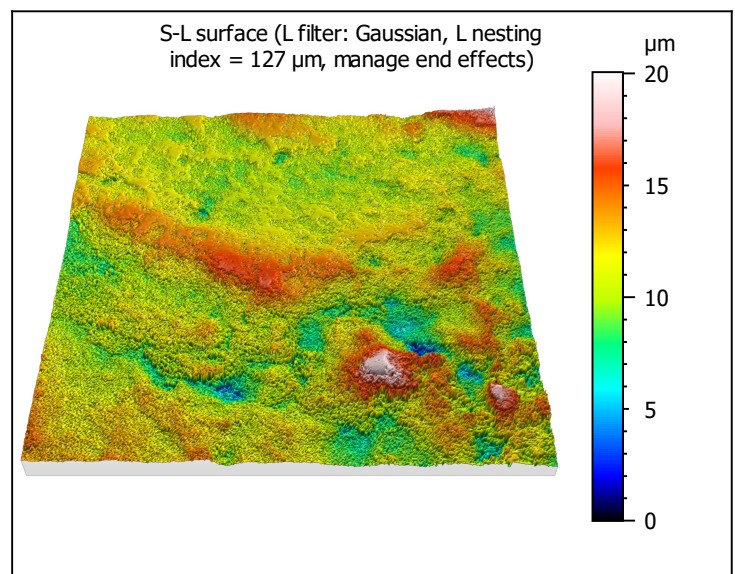
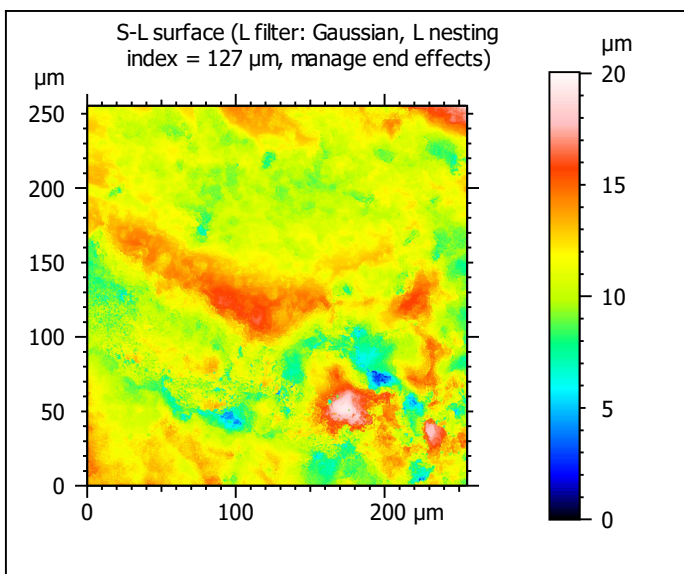
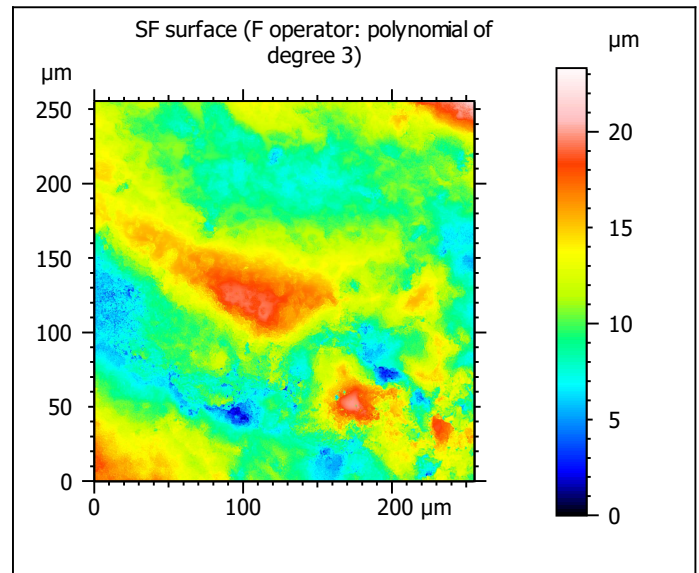
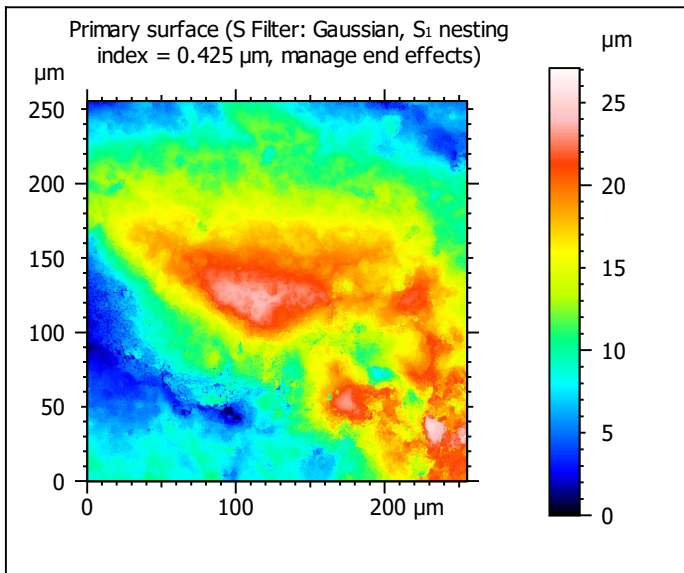
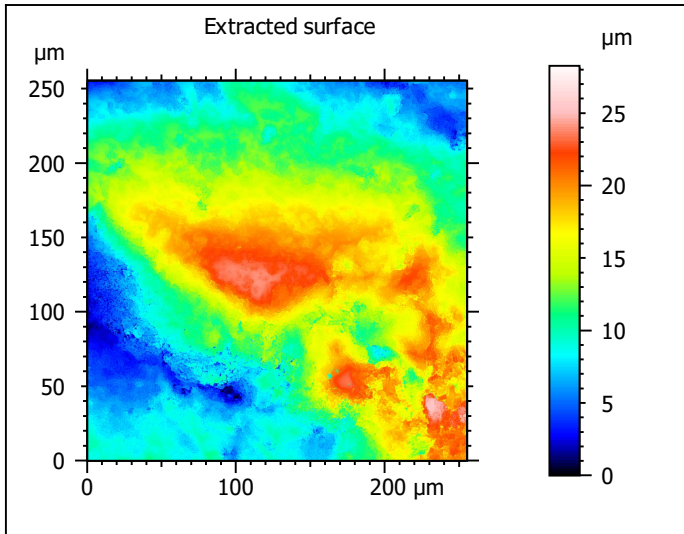


ISO 25178		
Height Parameters		
Sq	1.91	μm
Ssk	0.260	
Sku	4.40	
Sp	8.51	μm
Sv	11.2	μm
Sz	19.7	μm
Sa	1.44	μm
Functional Parameters		
Smr	0.130	%
Smc	2.40	μm
Sxp	3.52	μm
Spatial Parameters		
Sal	17.2	μm
Str	0.506	
Std	50.7	°
Hybrid Parameters		
Sdq	2.69	
Sdr	117	%
Functional Parameters (V...		
Vm	0.125	μm ³ /μm ²
Vv	2.53	μm ³ /μm ²
Vmp	0.125	μm ³ /μm ²
Vmc	1.50	μm ³ /μm ²
Vvc	2.31	μm ³ /μm ²
Vvv	0.218	μm ³ /μm ²
Functional Parameters (S...		
Sk	2.68	μm
Spk	1.74	μm
Svk	1.99	μm
Smr1	12.2	%
Smr2	87.5	%
Spq	1.41	
Svq	3.66	
Smq	98.1	

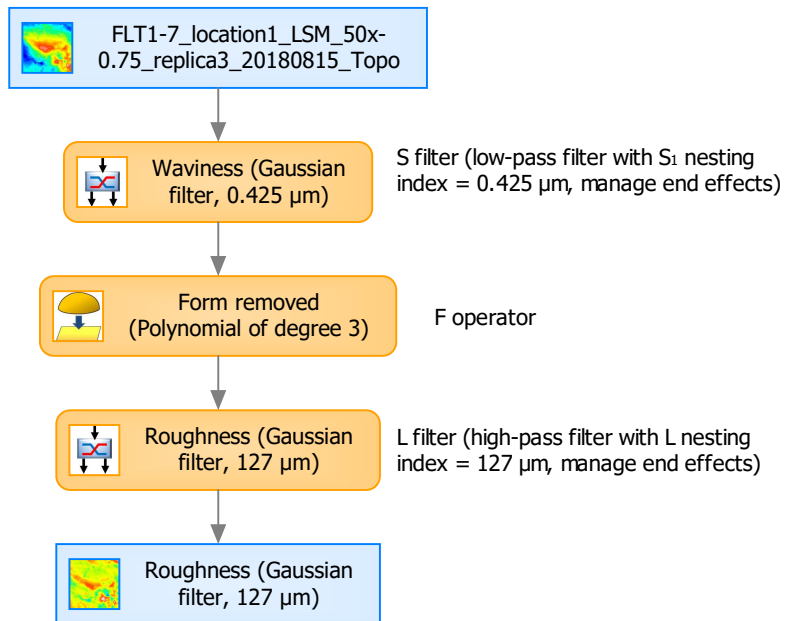


Flint FLT1-7
50x objective, NA = 0.75 or 0.95

Identity card - FLT1-7_location1_LSM_50x-...			
Name:	FLT1-7_location1_LSM_50x-0.75_replica3_2018...		
Created on:	8/15/2018 5:17:01 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	28.3	μm	
Size:	65532	digits	
Spacing:	0.431	nm	
NMP ratio:	0.00 % (0 Pts)		

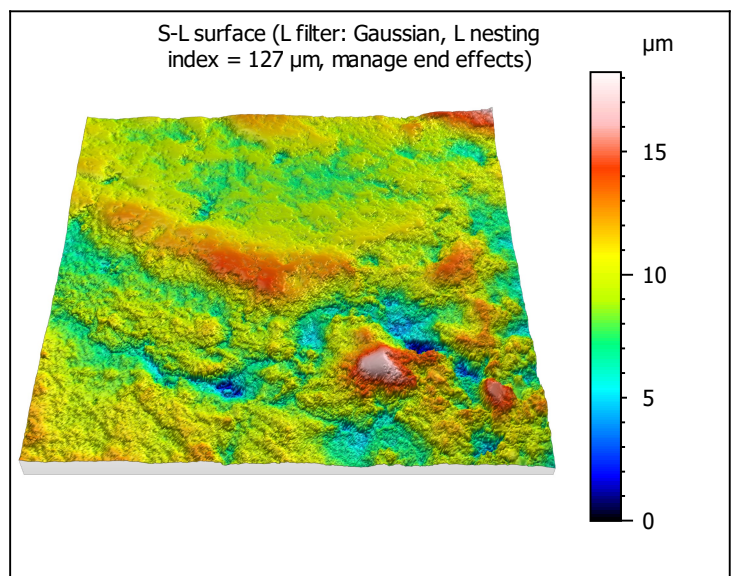
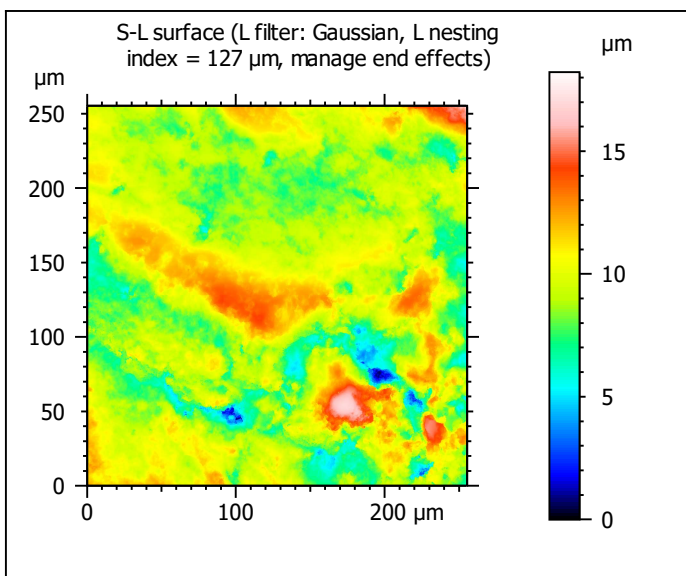
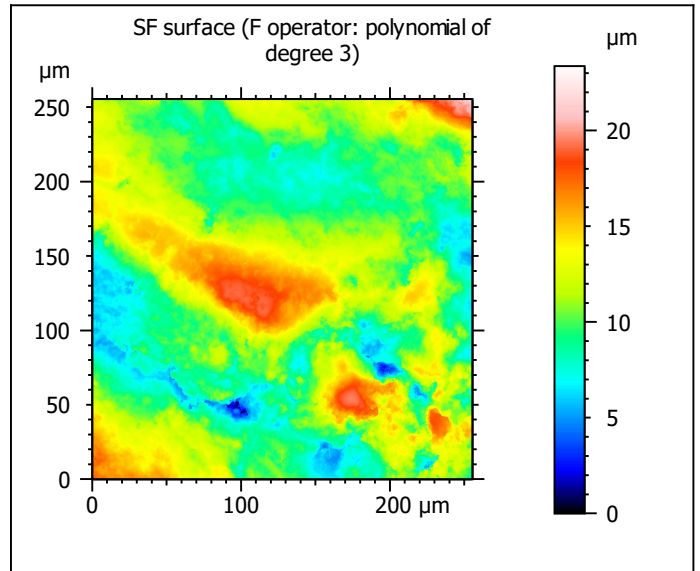
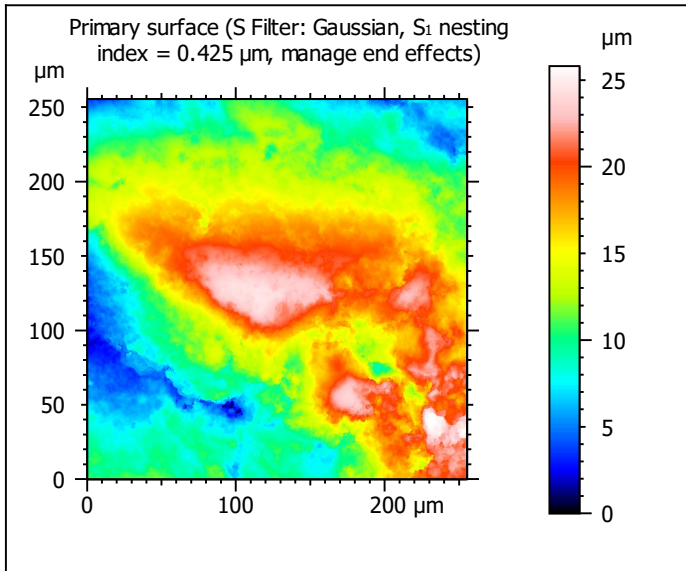
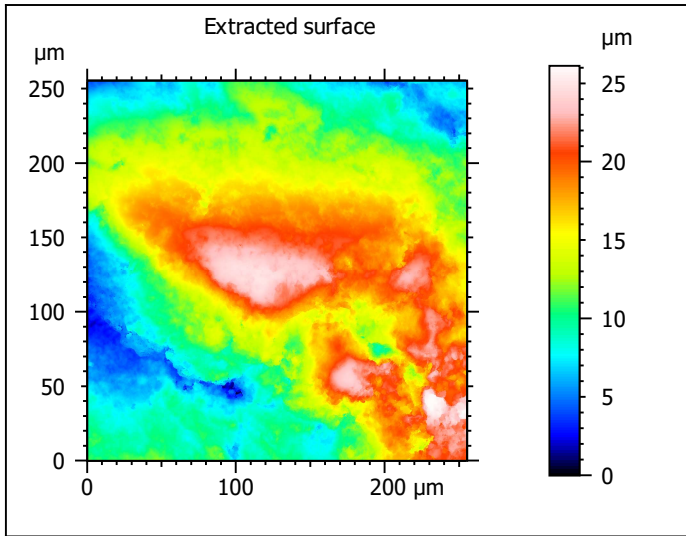


ISO 25178		
Height Parameters		
Sq	1.90	μm
Ssk	0.251	
Sku	4.35	
Sp	8.83	μm
Sv	11.2	μm
Sz	20.1	μm
Sa	1.43	μm
Functional Parameters		
Smr	0.0643	%
Smc	2.39	μm
Sxp	3.52	μm
Spatial Parameters		
Sal	17.2	μm
Str	0.508	
Std	167	°
Hybrid Parameters		
Sdq	2.67	
Sdr	116	%
Functional Parameters (V...		
Vm	0.123	μm ³ /μm ²
Vv	2.51	μm ³ /μm ²
Vmp	0.123	μm ³ /μm ²
Vmc	1.50	μm ³ /μm ²
Vvc	2.30	μm ³ /μm ²
Vvv	0.218	μm ³ /μm ²
Functional Parameters (S...		
Sk	2.67	μm
Spk	1.71	μm
Svk	1.98	μm
Smr1	12.2	%
Smr2	87.5	%
Spq	1.27	
Svq	3.51	
Smq	95.5	

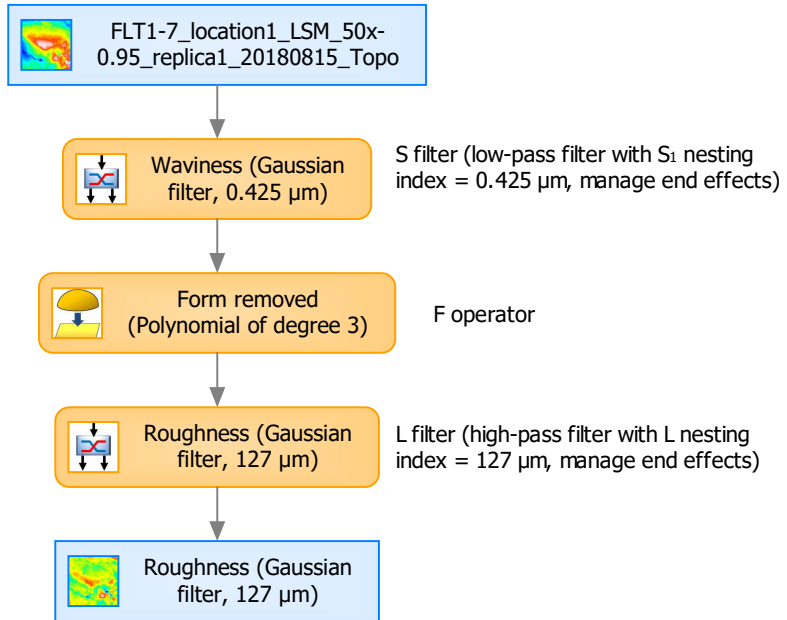


Flint FLT1-7
50x objective, NA = 0.75 or 0.95

Identity card - FLT1-7_location1_LSM_50x-...			
Name:	FLT1-7_location1_LSM_50x-0.95_replica1_2018...		
Created on:	8/15/2018 4:17:30 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	26.1	μm	
Size:	65532	digits	
Spacing:	0.398	nm	
NMP ratio:	0.00 % (0 Pts)		

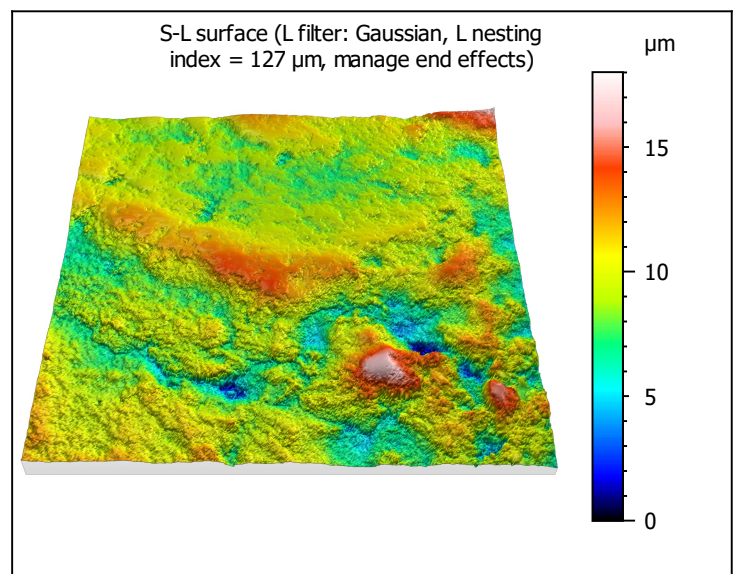
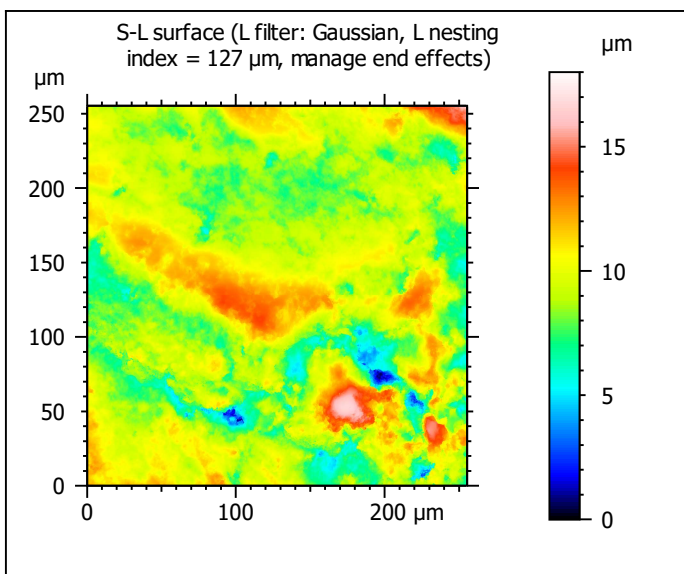
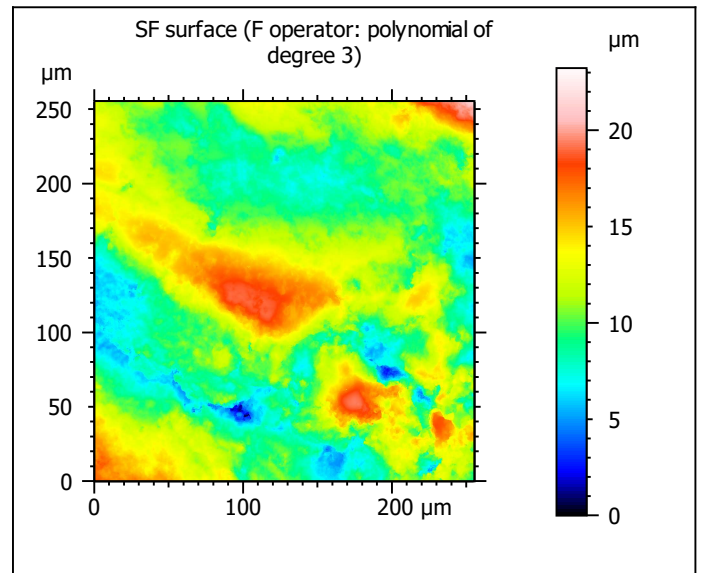
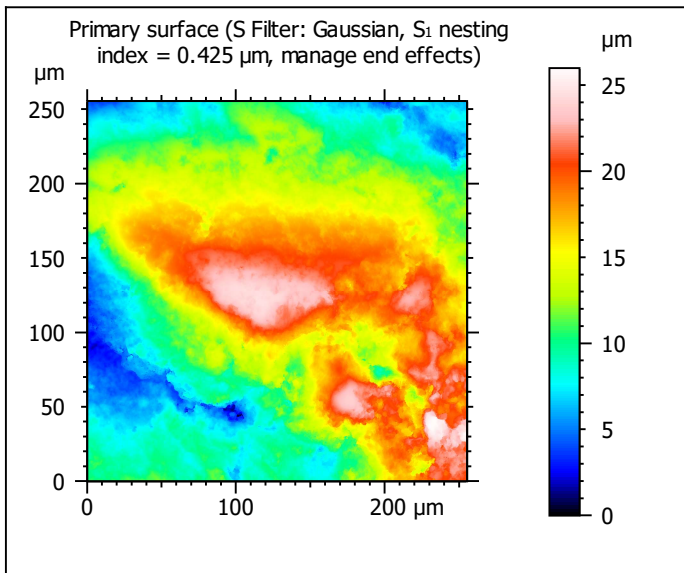
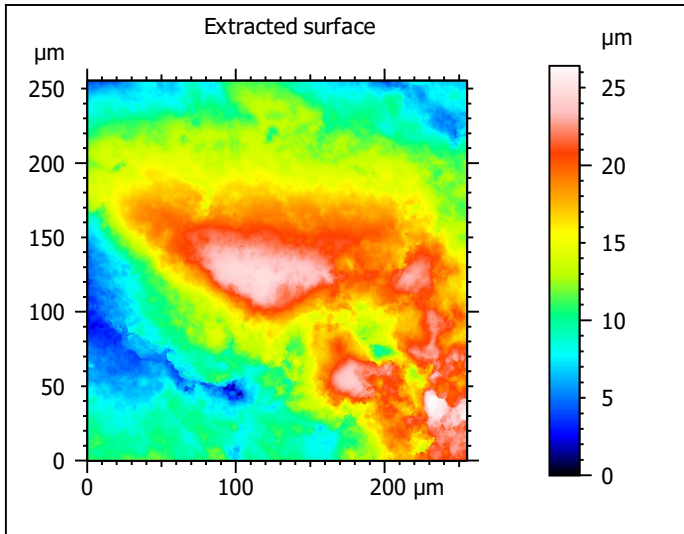


ISO 25178	
Height Parameters	
Sq	1.83 μm
Ssk	0.301
Sku	4.43
Sp	8.80 μm
Sv	9.43 μm
Sz	18.2 μm
Sa	1.38 μm
Functional Parameters	
Smr	0.00289 %
Smc	2.34 μm
Sxp	3.29 μm
Spatial Parameters	
Sal	17.5 μm
Str	0.489
Std	92.8 $^{\circ}$
Hybrid Parameters	
Sdq	1.26
Sdr	33.7 %
Functional Parameters (Vol...)	
Vm	0.117 $\mu\text{m}^3/\mu\text{m}^2$
Vv	2.46 $\mu\text{m}^3/\mu\text{m}^2$
Vmp	0.117 $\mu\text{m}^3/\mu\text{m}^2$
Vmc	1.42 $\mu\text{m}^3/\mu\text{m}^2$
Vvc	2.26 $\mu\text{m}^3/\mu\text{m}^2$
Vvv	0.204 $\mu\text{m}^3/\mu\text{m}^2$
Functional Parameters (Str...)	
Sk	2.35 μm
Spk	1.65 μm
Svk	1.83 μm
Smr1	13.2 %
Smr2	87.0 %
Spq	0.201
Svq	3.59
Smq	53.2

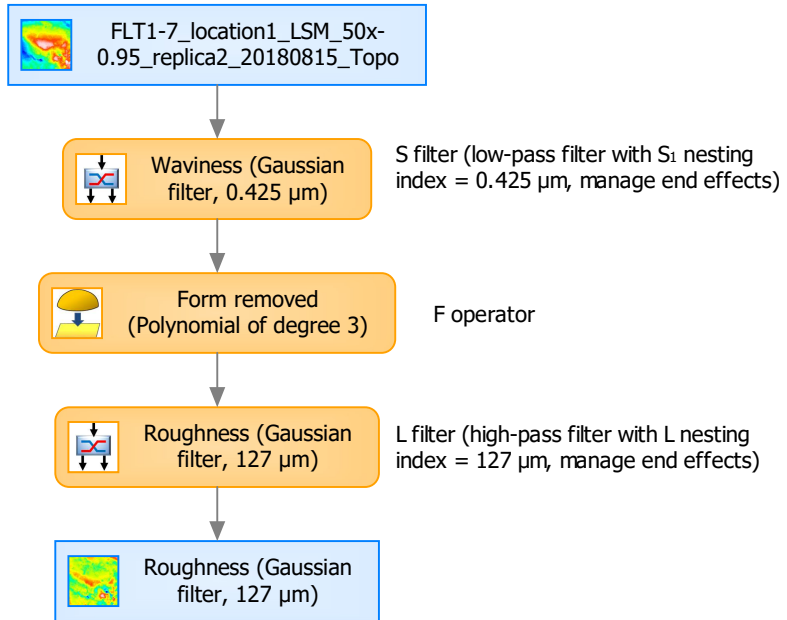


Flint FLT1-7
50x objective, NA = 0.75 or 0.95

Identity card - FLT1-7_location1_LSM_50x-...			
Name:	FLT1-7_location1_LSM_50x-0.95_replica2_2018...		
Created on:	8/15/2018 4:44:00 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	26.4	μm	
Size:	65532	digits	
Spacing:	0.403	nm	
NMP ratio:	0.00 % (0 Pts)		

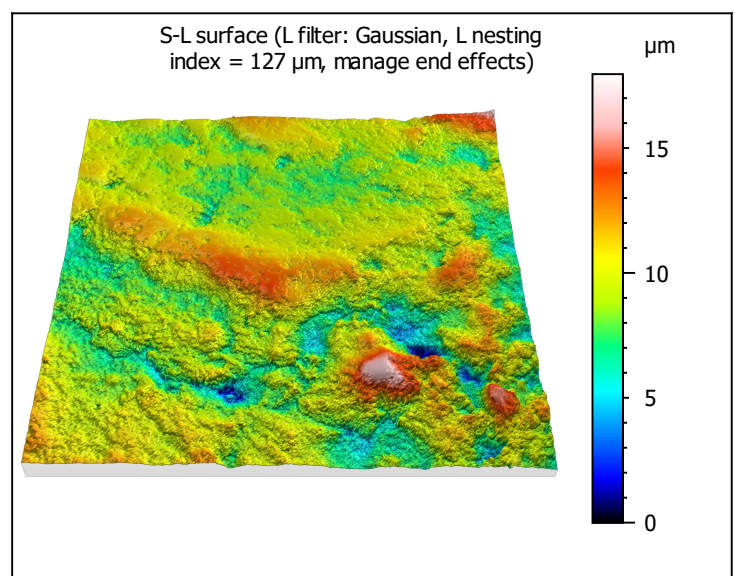
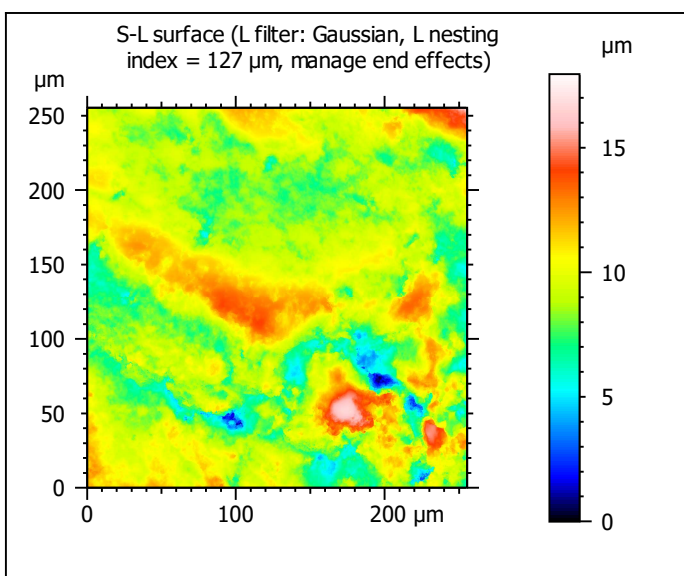
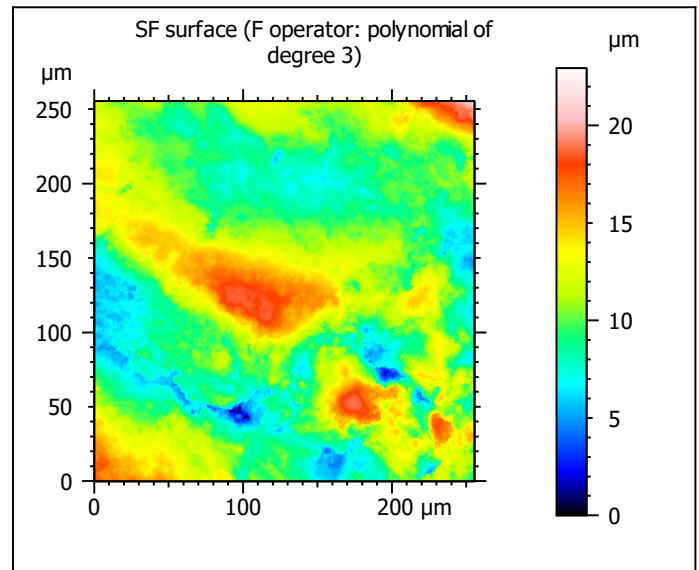
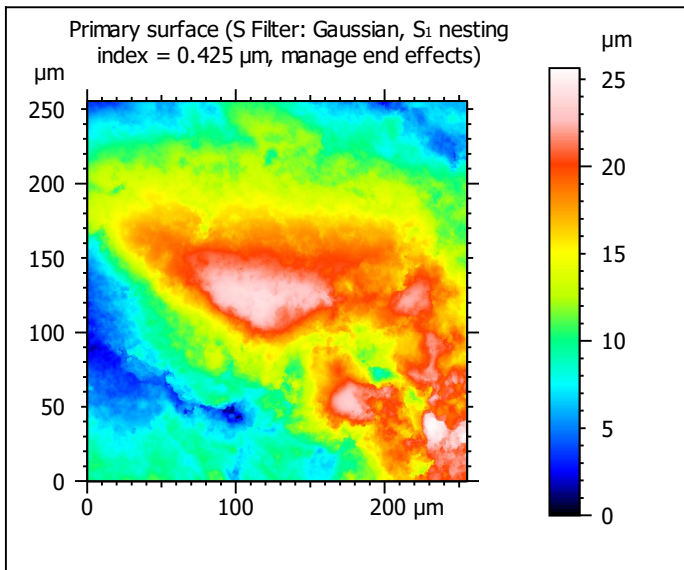
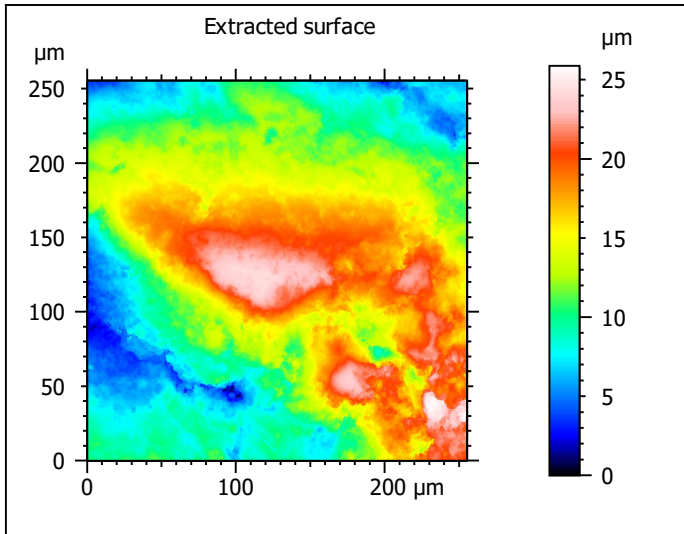


ISO 25178	
Height Parameters	
Sq	1.80 μm
Ssk	0.289
Sku	4.42
Sp	8.68 μm
Sv	9.33 μm
Sz	18.0 μm
Sa	1.36 μm
Functional Parameters	
Smr	0.00222 %
Smc	2.32 μm
Sxp	3.25 μm
Spatial Parameters	
Sal	17.6 μm
Str	0.484
Std	92.8 $^\circ$
Hybrid Parameters	
Sdq	1.24
Sdr	33.1 %
Functional Parameters (Vol...)	
Vm	0.115 $\mu\text{m}^3/\mu\text{m}^2$
Vv	2.43 $\mu\text{m}^3/\mu\text{m}^2$
Vmp	0.115 $\mu\text{m}^3/\mu\text{m}^2$
Vmc	1.41 $\mu\text{m}^3/\mu\text{m}^2$
Vvc	2.23 $\mu\text{m}^3/\mu\text{m}^2$
Vvv	0.202 $\mu\text{m}^3/\mu\text{m}^2$
Functional Parameters (Str...)	
Sk	2.34 μm
Spk	1.64 μm
Svk	1.82 μm
Smr1	12.8 %
Smr2	87.1 %
Spq	0.0523
Svq	3.61
Smq	46.8

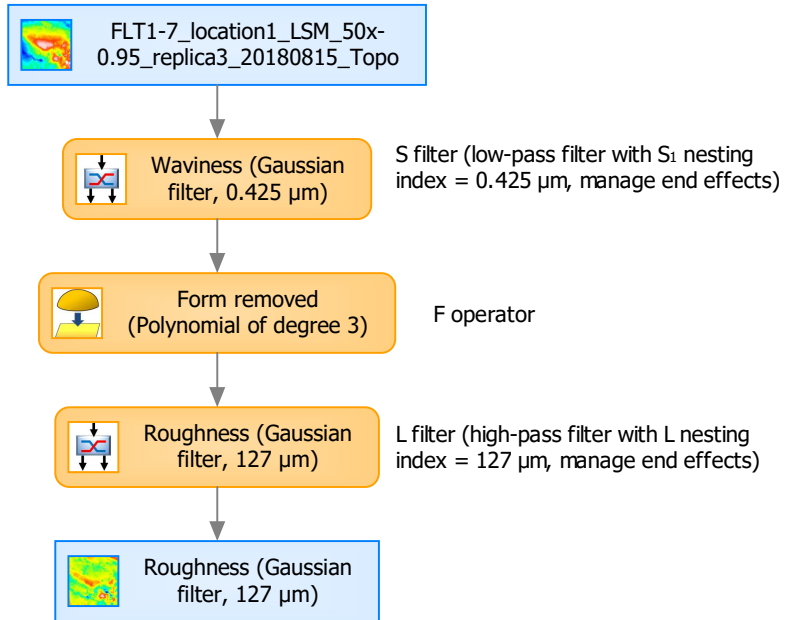


Flint FLT1-7
50x objective, NA = 0.75 or 0.95

Identity card - FLT1-7_location1_LSM_50x-...			
Name:	FLT1-7_location1_LSM_50x-0.95_replica3_2018...		
Created on:	8/15/2018 5:06:24 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	25.9	μm	
Size:	65532	digits	
Spacing:	0.395	nm	
NMP ratio:	0.00 % (0 Pts)		

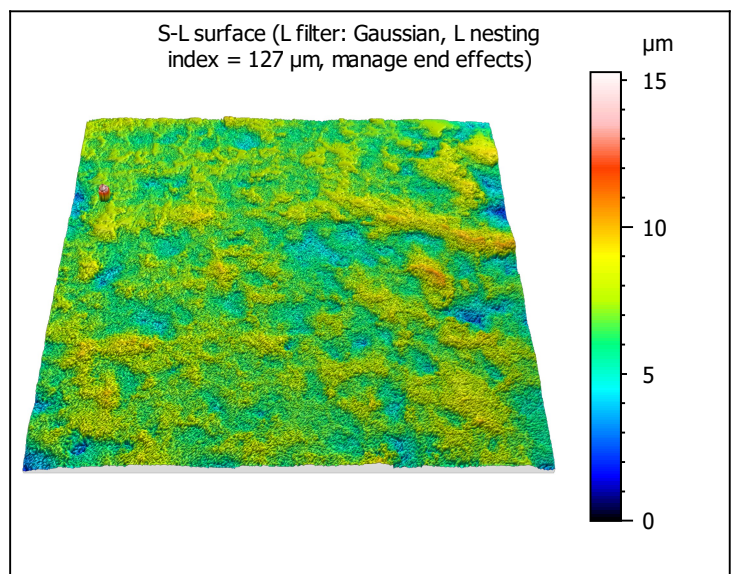
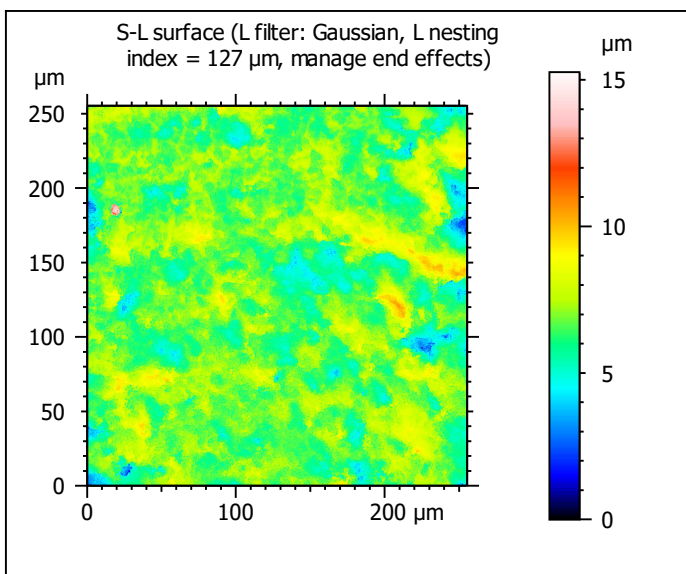
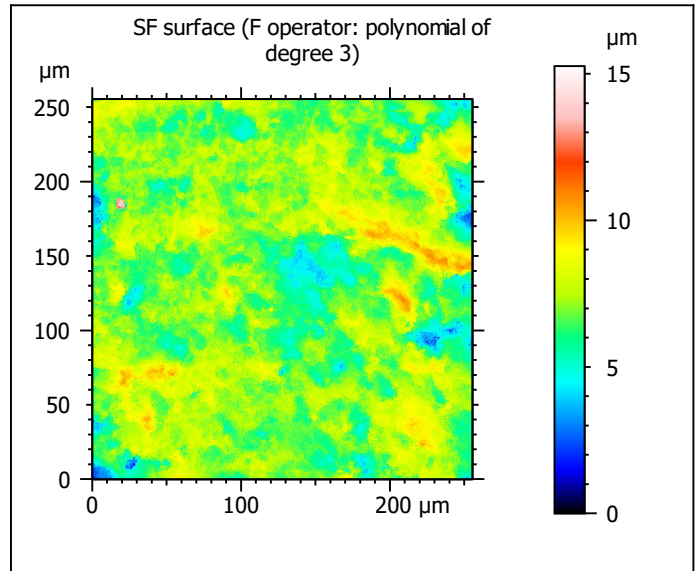
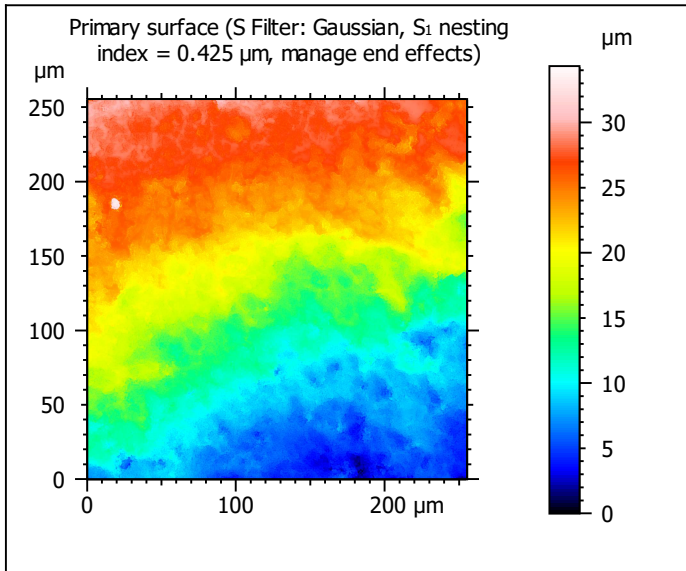
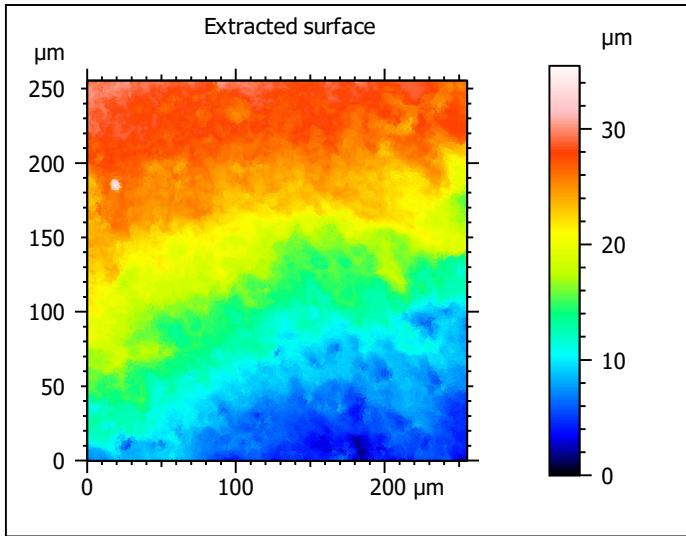


ISO 25178	
Height Parameters	
Sq	1.80 μm
Ssk	0.284
Sku	4.39
Sp	8.70 μm
Sv	9.26 μm
Sz	18.0 μm
Sa	1.36 μm
Functional Parameters	
Smr	0.00444 %
Smc	2.32 μm
Sxp	3.25 μm
Spatial Parameters	
Sal	17.6 μm
Str	0.484
Std	92.8 $^\circ$
Hybrid Parameters	
Sdq	1.24
Sdr	32.8 %
Functional Parameters (Vol...)	
Vm	0.115 $\mu\text{m}^3/\mu\text{m}^2$
Vv	2.43 $\mu\text{m}^3/\mu\text{m}^2$
Vmp	0.115 $\mu\text{m}^3/\mu\text{m}^2$
Vmc	1.41 $\mu\text{m}^3/\mu\text{m}^2$
Vvc	2.23 $\mu\text{m}^3/\mu\text{m}^2$
Vvv	0.202 $\mu\text{m}^3/\mu\text{m}^2$
Functional Parameters (Str...)	
Sk	2.34 μm
Spk	1.63 μm
Svk	1.82 μm
Smr1	12.8 %
Smr2	87.1 %
Spq	0.0791
Svq	3.58
Smq	47.3

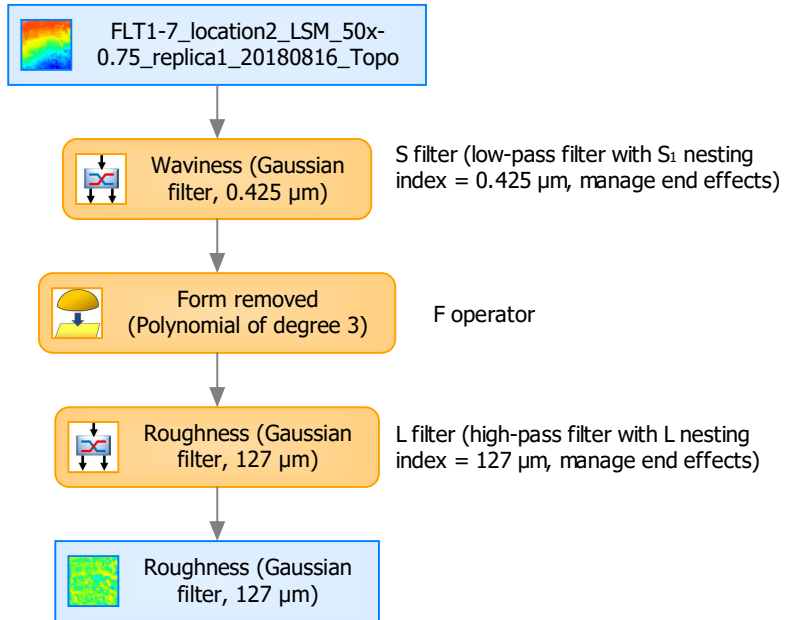


Flint FLT1-7
50x objective, NA = 0.75 or 0.95

Identity card - FLT1-7_location2_LSM_50x-...			
Name:	FLT1-7_location2_LSM_50x-0.75_replica1_2018...		
Created on:	8/16/2018 3:35:16 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	35.5	μm	
Size:	65532	digits	
Spacing:	0.541	nm	
NMP ratio:	0.00 % (0 Pts)		

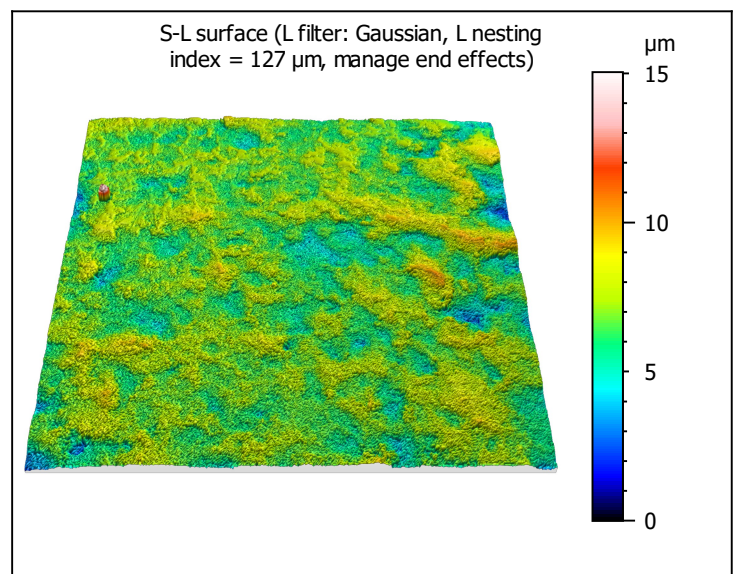
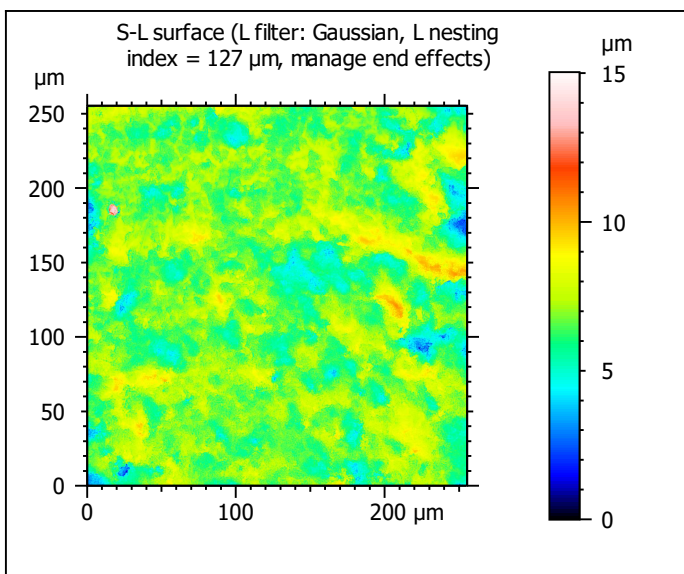
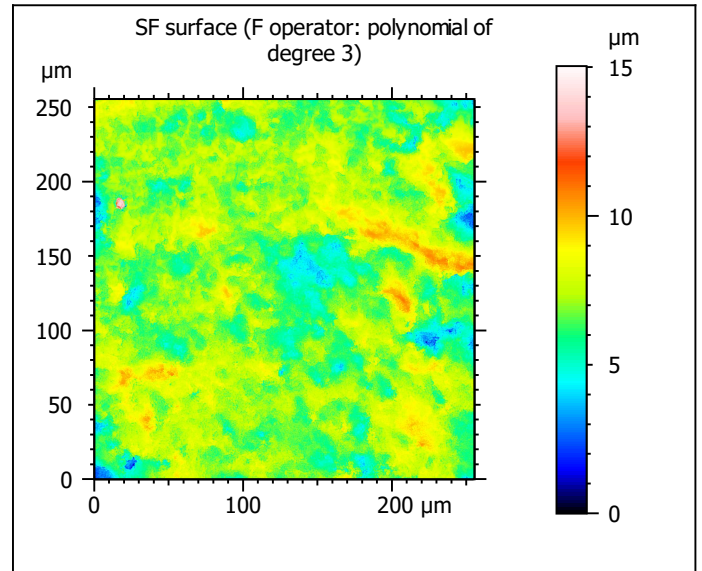
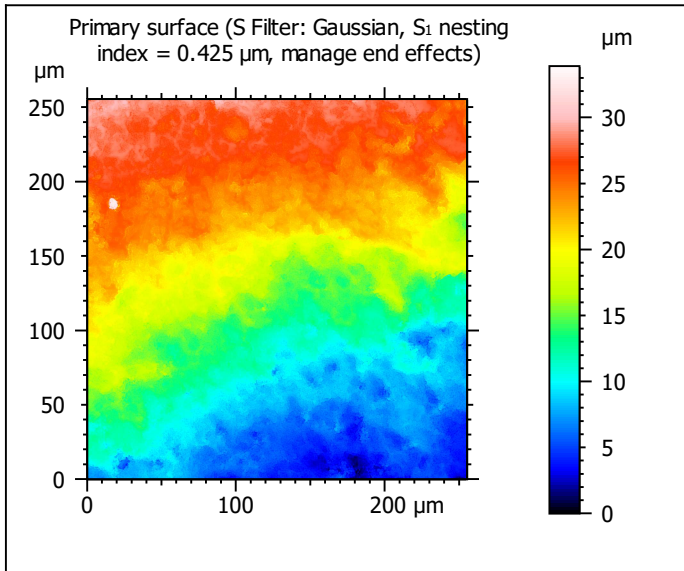
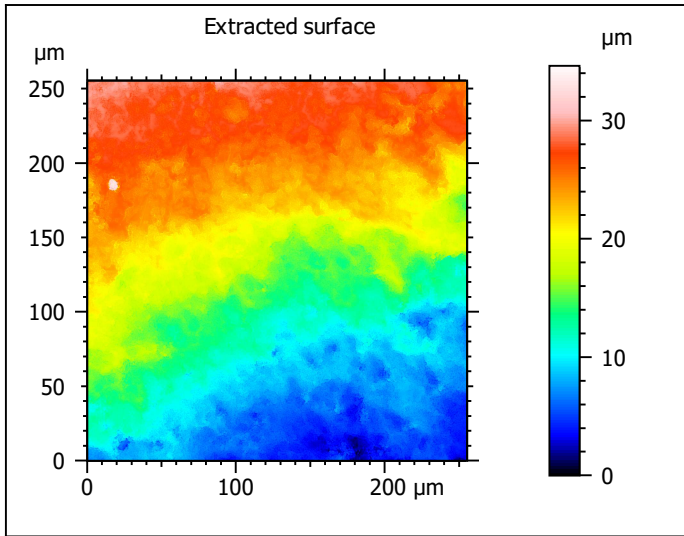


ISO 25178	
Height Parameters	
Sq	1.00 μm
Ssk	-0.144
Sku	5.02
Sp	8.52 μm
Sv	6.75 μm
Sz	15.3 μm
Sa	0.754 μm
Functional Parameters	
Smr	0.000783 %
Smc	1.17 μm
Sxp	2.17 μm
Spatial Parameters	
Sal	10.9 μm
Str	0.780
Std	132 $^\circ$
Hybrid Parameters	
Sdq	1.95
Sdr	90.4 %
Functional Parameters (Vol...)	
Vm	0.0561 $\mu\text{m}^3/\mu\text{m}^2$
Vv	1.23 $\mu\text{m}^3/\mu\text{m}^2$
Vmp	0.0561 $\mu\text{m}^3/\mu\text{m}^2$
Vmc	0.805 $\mu\text{m}^3/\mu\text{m}^2$
Vvc	1.09 $\mu\text{m}^3/\mu\text{m}^2$
Vvv	0.139 $\mu\text{m}^3/\mu\text{m}^2$
Functional Parameters (Str...)	
Sk	1.98 μm
Spk	0.990 μm
Svk	1.12 μm
Smr1	10.0 %
Smr2	87.9 %
Spq	*****
Svq	*****
Smq	*****

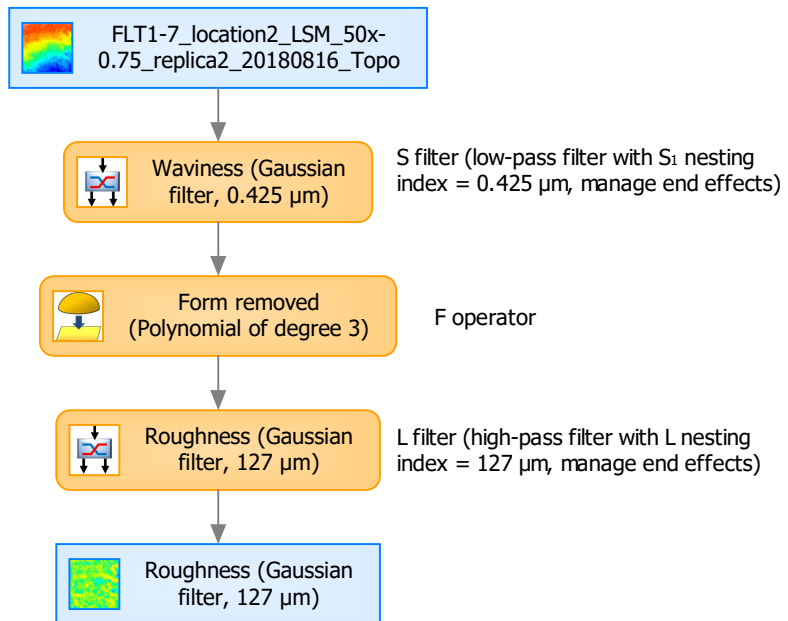


Flint FLT1-7
50x objective, NA = 0.75 or 0.95

Identity card - FLT1-7_location2_LSM_50x-...			
Name:	FLT1-7_location2_LSM_50x-0.75_replica2_2018...		
Created on:	8/16/2018 4:01:40 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	34.6	μm	
Size:	65532	digits	
Spacing:	0.528	nm	
NMP ratio:	0.00 % (0 Pts)		

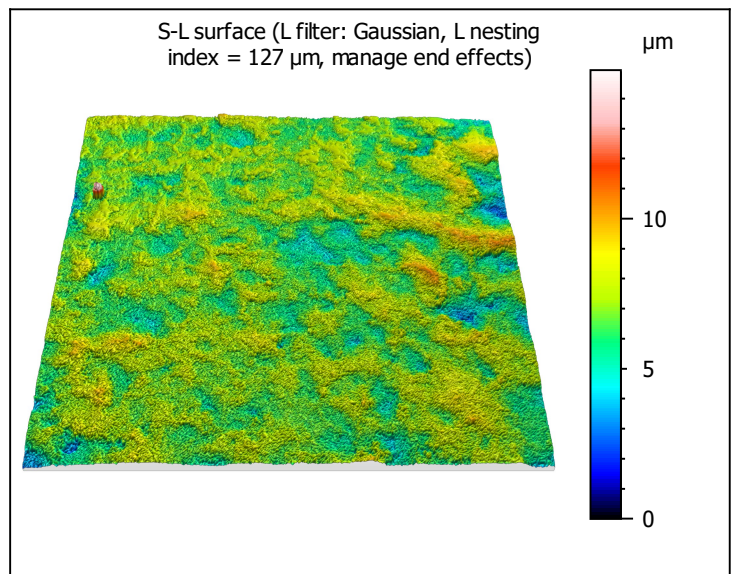
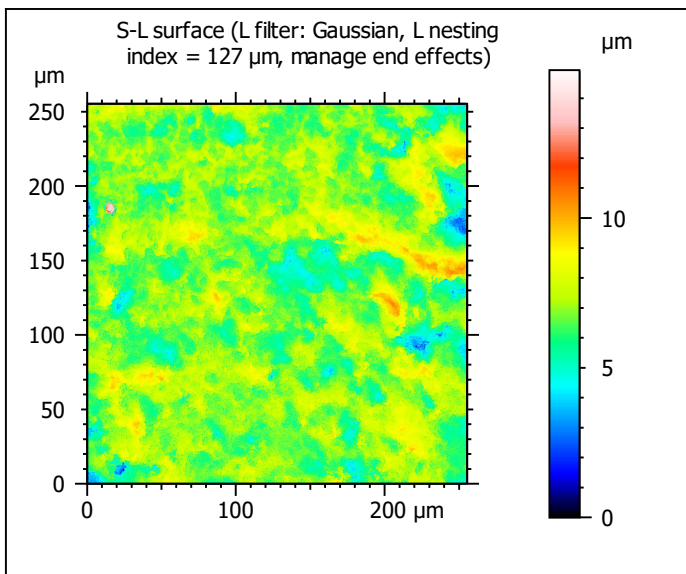
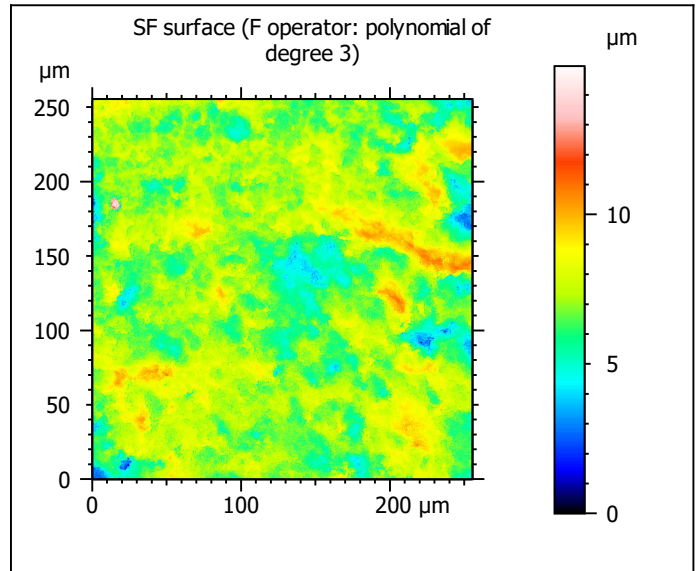
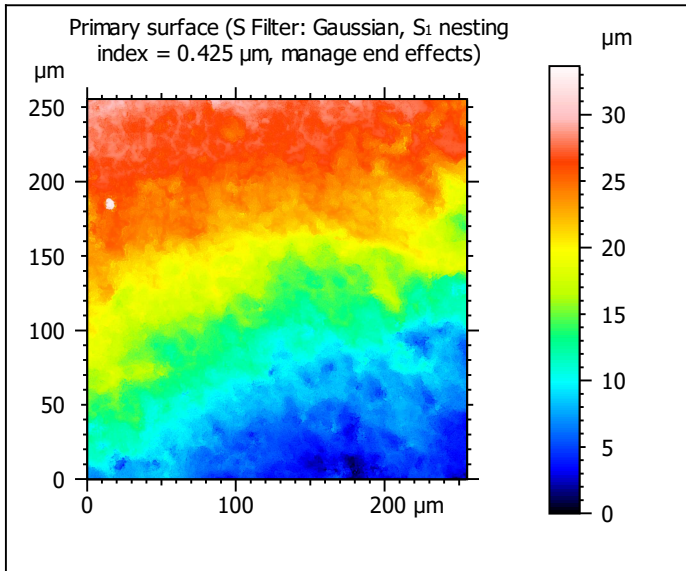
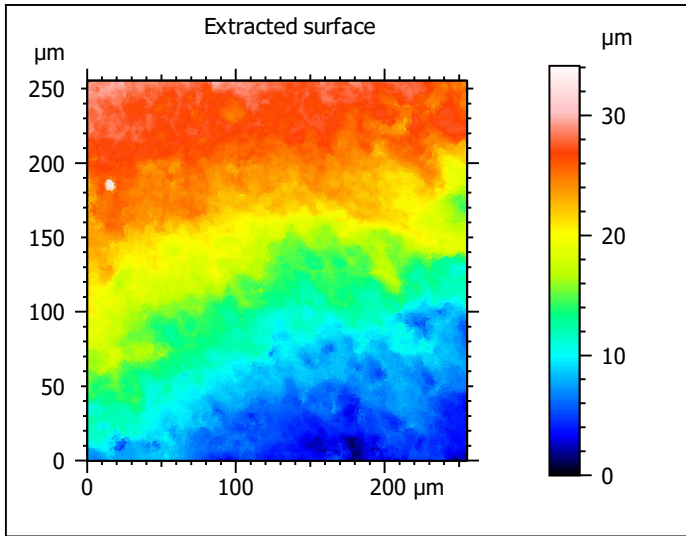


ISO 25178		
Height Parameters		
Sq	1.01	μm
Ssk	-0.129	
Sku	4.98	
Sp	8.29	μm
Sv	6.75	μm
Sz	15.0	μm
Sa	0.757	μm
Functional Parameters		
Smr	0.0035	%
Smc	1.18	μm
Sxp	2.17	μm
Spatial Parameters		
Sal	10.9	μm
Str	0.766	
Std	130	°
Hybrid Parameters		
Sdq	1.94	
Sdr	90.3	%
Functional Parameters (V...)		
Vm	0.057	μm ³ /μm ²
Vv	1.24	μm ³ /μm ²
Vmp	0.057	μm ³ /μm ²
Vmc	0.807	μm ³ /μm ²
Vvc	1.10	μm ³ /μm ²
Vvv	0.138	μm ³ /μm ²
Functional Parameters (S...)		
Sk	1.99	μm
Spk	0.998	μm
Svk	1.12	μm
Smr1	10.0	%
Smr2	88.1	%
Spq	*****	
Svq	*****	
Smq	*****	

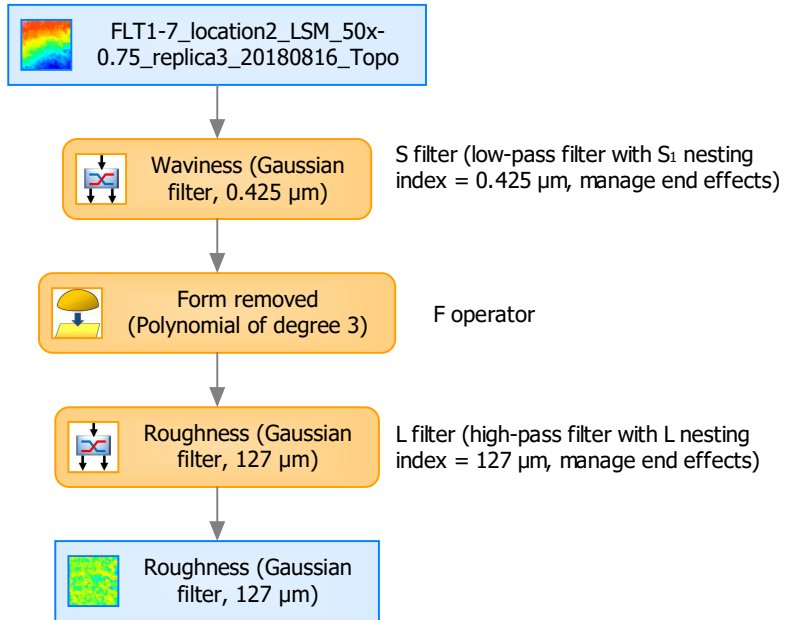


Flint FLT1-7
50x objective, NA = 0.75 or 0.95

Identity card - FLT1-7_location2_LSM_50x-...			
Name:	FLT1-7_location2_LSM_50x-0.75_replica3_2018...		
Created on:	8/16/2018 4:28:37 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	34.1	μm	
Size:	65532	digits	
Spacing:	0.521	nm	
NMP ratio:	0.00 % (0 Pts)		

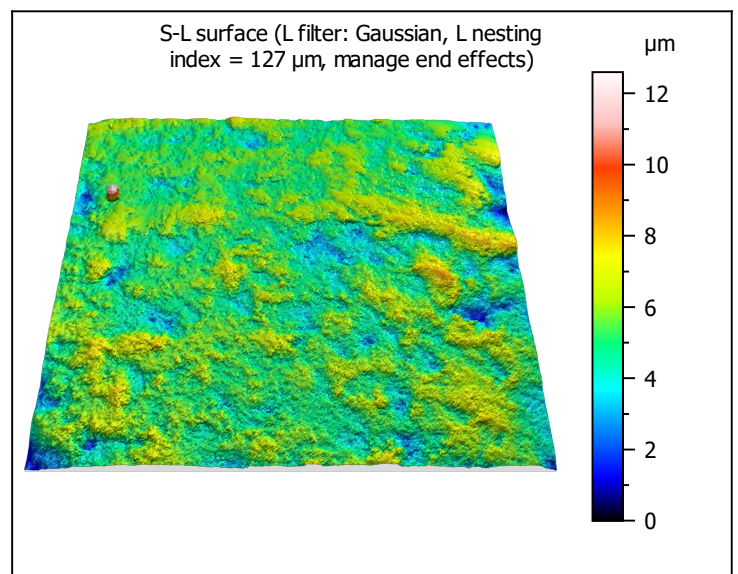
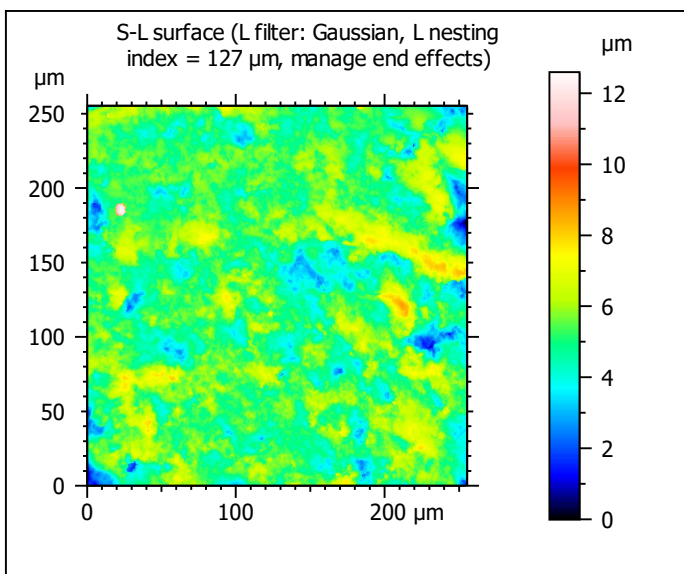
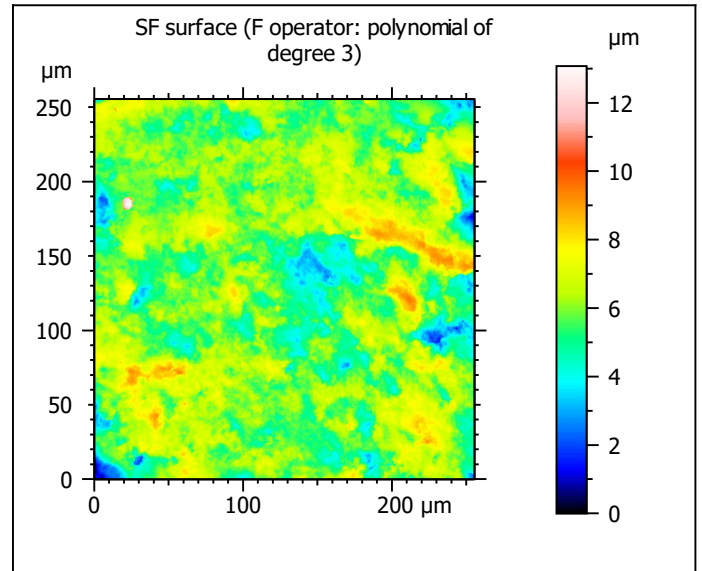
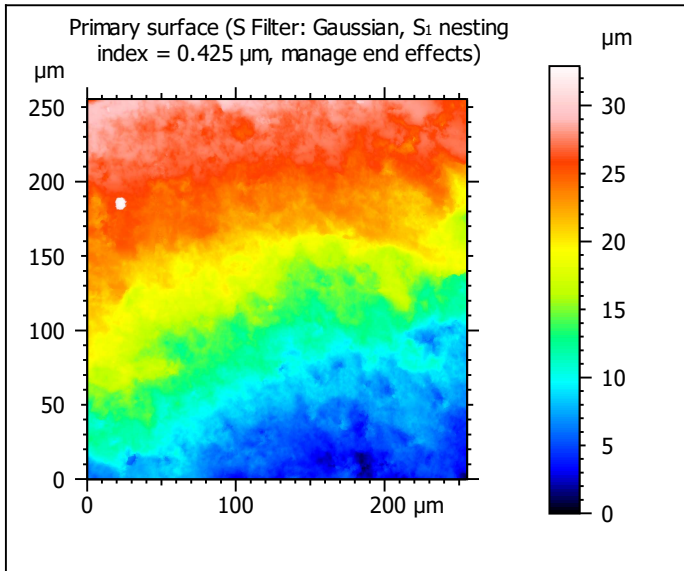
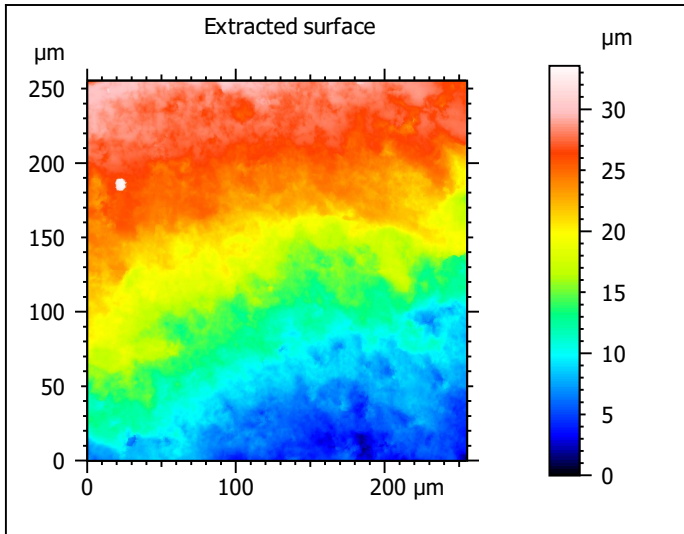


ISO 25178	
Height Parameters	
Sq	1.01 μm
Ssk	-0.109
Sku	4.87
Sp	8.09 μm
Sv	6.86 μm
Sz	14.9 μm
Sa	0.763 μm
Functional Parameters	
Smr	0.00638 %
Smc	1.19 μm
Sxp	2.17 μm
Spatial Parameters	
Sal	10.9 μm
Str	0.738
Std	130 $^{\circ}$
Hybrid Parameters	
Sdq	1.94
Sdr	90.7 %
Functional Parameters (Vol...)	
Vm	0.0583 $\mu\text{m}^3/\mu\text{m}^2$
Vv	1.25 $\mu\text{m}^3/\mu\text{m}^2$
Vmp	0.0583 $\mu\text{m}^3/\mu\text{m}^2$
Vmc	0.814 $\mu\text{m}^3/\mu\text{m}^2$
Vvc	1.11 $\mu\text{m}^3/\mu\text{m}^2$
Vvv	0.138 $\mu\text{m}^3/\mu\text{m}^2$
Functional Parameters (Str...)	
Sk	2.01 μm
Spk	1.02 μm
Svk	1.13 μm
Smr1	9.96 %
Smr2	88.2 %
Spq	*****
Svq	*****
Smq	*****

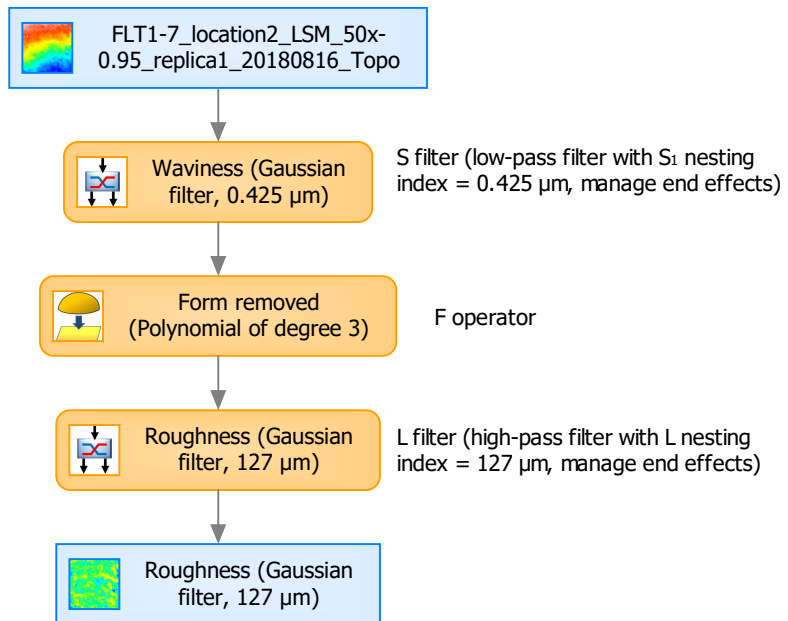


Flint FLT1-7
50x objective, NA = 0.75 or 0.95

Identity card - FLT1-7_location2_LSM_50x-...			
Name:	FLT1-7_location2_LSM_50x-0.95_replica1_2018...		
Created on:	8/16/2018 3:22:20 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	33.6	μm	
Size:	65532	digits	
Spacing:	0.512	nm	
NMP ratio:	0.00 % (0 Pts)		

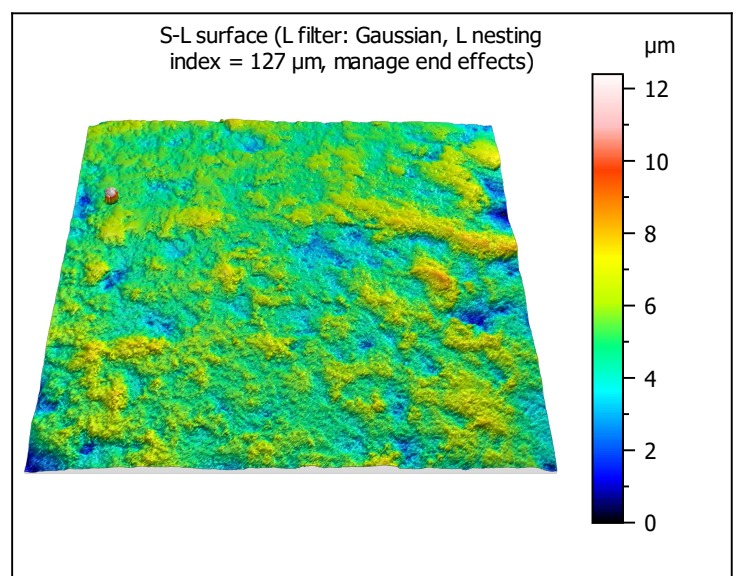
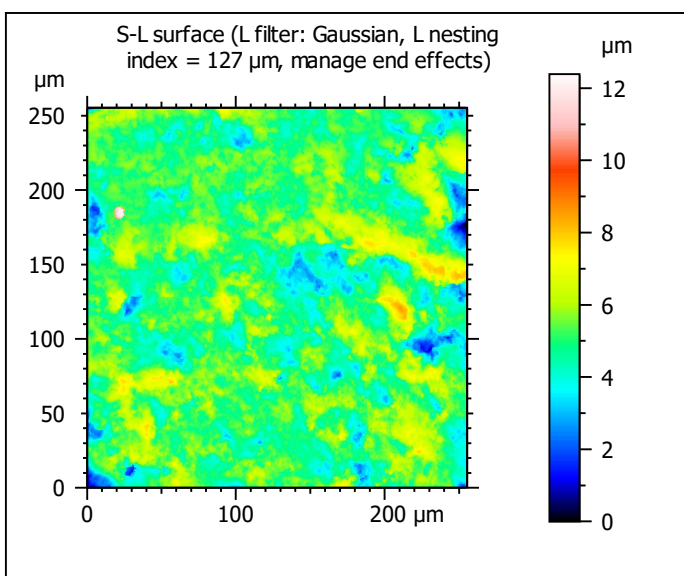
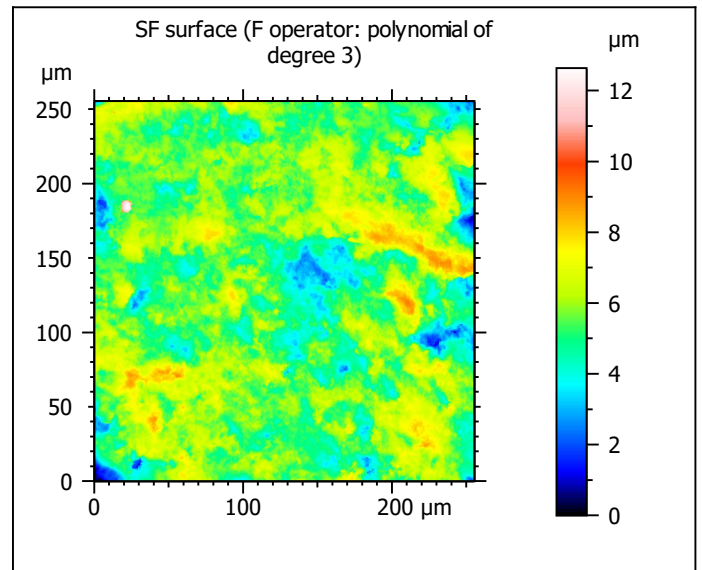
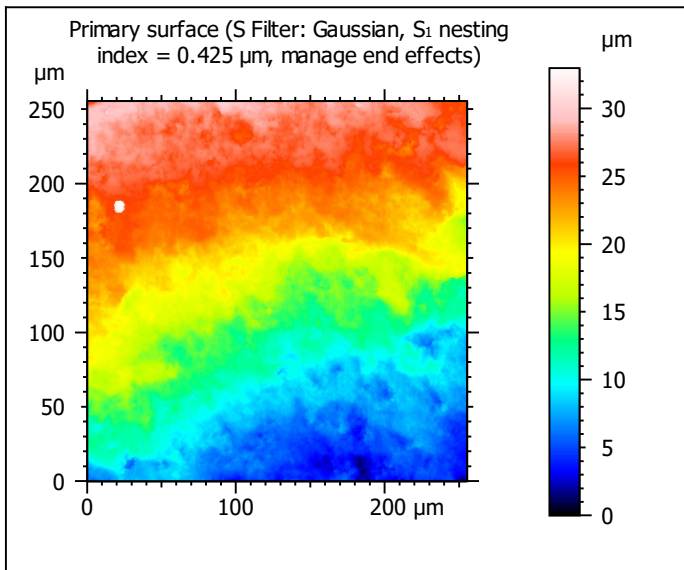
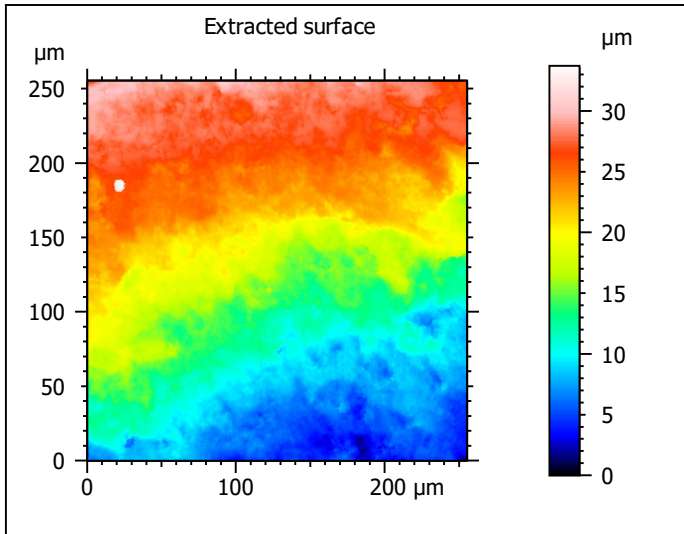


ISO 25178		
Height Parameters		
Sq	0.930	μm
Ssk	-0.0849	
Sku	5.76	
Sp	7.38	μm
Sv	5.22	μm
Sz	12.6	μm
Sa	0.689	μm
Functional Parameters		
Smr	0.0454	%
Smc	1.08	μm
Sxp	2.04	μm
Spatial Parameters		
Sal	11.4	μm
Str	0.780	
Std	176	°
Hybrid Parameters		
Sdq	0.858	
Sdr	22.2	%
Functional Parameters (V...		
Vm	0.0537	μm ³ /μm ²
Vv	1.13	μm ³ /μm ²
Vmp	0.0537	μm ³ /μm ²
Vmc	0.728	μm ³ /μm ²
Vvc	0.999	μm ³ /μm ²
Vvv	0.132	μm ³ /μm ²
Functional Parameters (S...		
Sk	1.72	μm
Spk	0.962	μm
Svk	1.03	μm
Smr1	10.5	%
Smr2	87.3	%
Spq	*****	
Svq	*****	
Smq	*****	

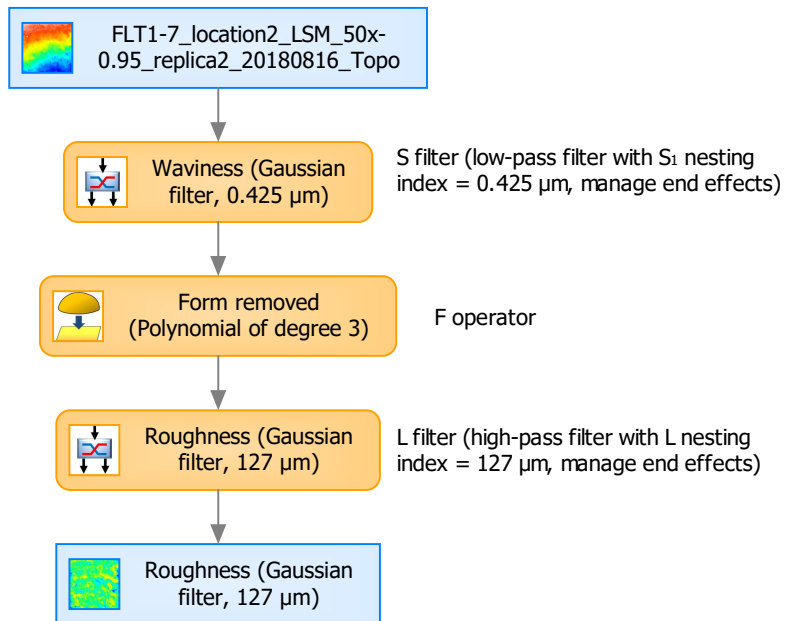


Flint FLT1-7
50x objective, NA = 0.75 or 0.95

Identity card - FLT1-7_location2_LSM_50x-...			
Name:	FLT1-7_location2_LSM_50x-0.95_replica2_2018...		
Created on:	8/16/2018 3:49:58 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	33.7	μm	
Size:	65532	digits	
Spacing:	0.514	nm	
NMP ratio:	0.00 % (0 Pts)		

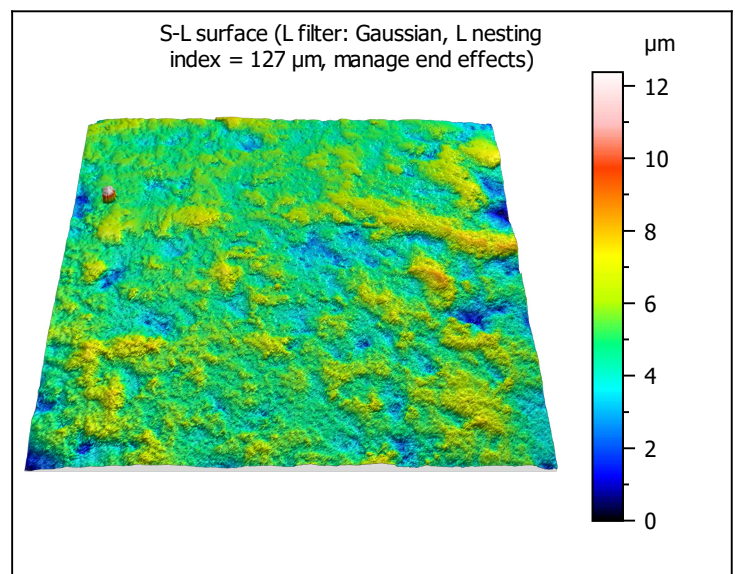
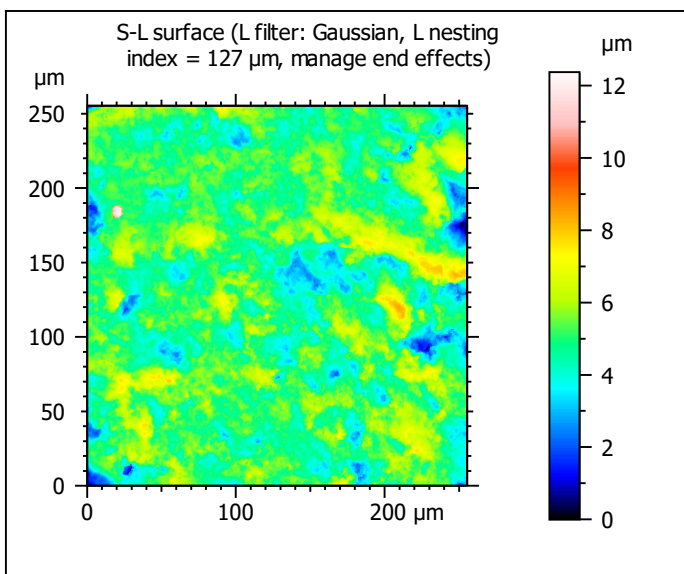
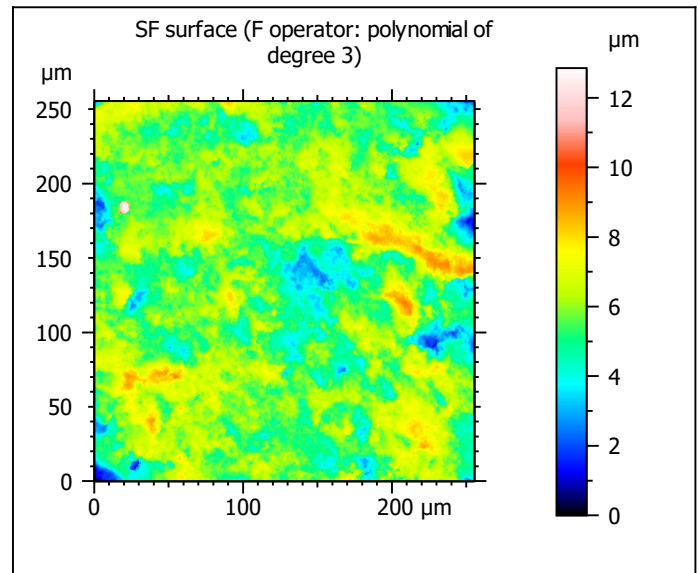
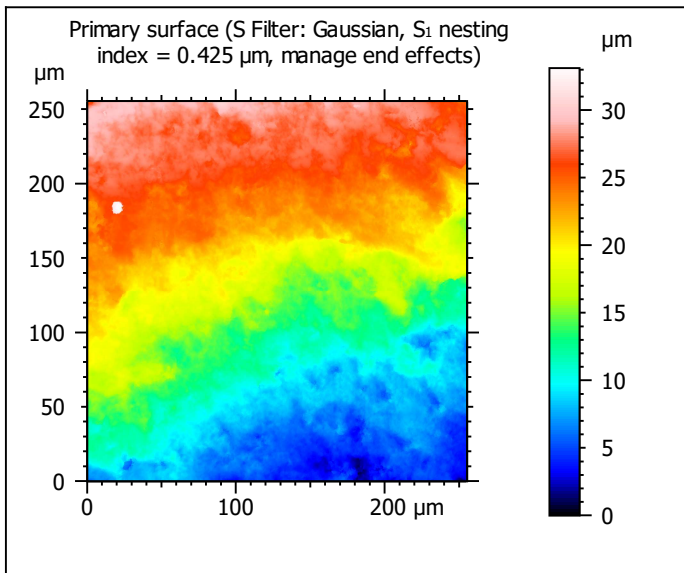
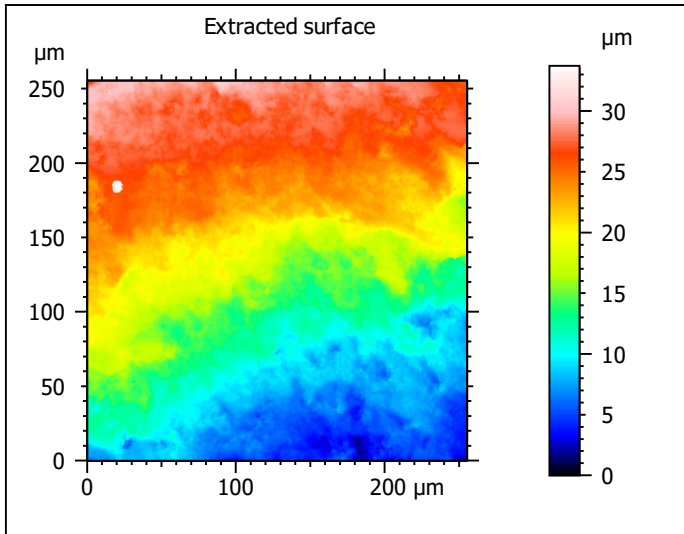


ISO 25178		
Height Parameters		
Sq	0.931	μm
Ssk	-0.0815	
Sku	5.73	
Sp	7.31	μm
Sv	5.09	μm
Sz	12.4	μm
Sa	0.689	μm
Functional Parameters		
Smr	0.046	%
Smc	1.08	μm
Sxp	2.04	μm
Spatial Parameters		
Sal	11.5	μm
Str	0.782	
Std	130	°
Hybrid Parameters		
Sdq	0.852	
Sdr	22.1	%
Functional Parameters (V...)		
Vm	0.0543	μm ³ /μm ²
Vv	1.13	μm ³ /μm ²
Vmp	0.0543	μm ³ /μm ²
Vmc	0.728	μm ³ /μm ²
Vvc	1.00	μm ³ /μm ²
Vvv	0.132	μm ³ /μm ²
Functional Parameters (S...)		
Sk	1.72	μm
Spk	0.965	μm
Svk	1.03	μm
Smr1	10.5	%
Smr2	87.3	%
Spq	*****	
Svq	*****	
Smq	*****	

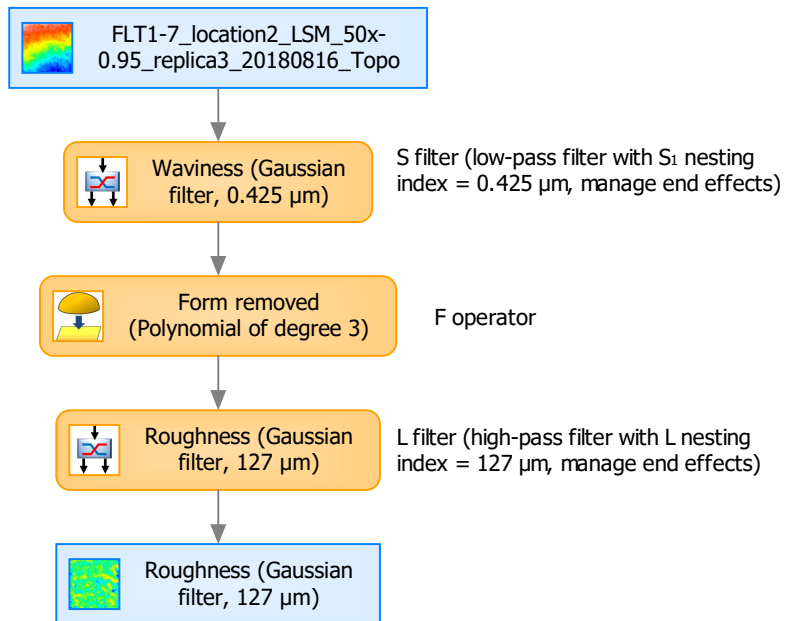


Flint FLT1-7
50x objective, NA = 0.75 or 0.95

Identity card - FLT1-7_location2_LSM_50x-...			
Name:	FLT1-7_location2_LSM_50x-0.95_replica3_2018...		
Created on:	8/16/2018 4:17:09 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	33.7	μm	
Size:	65532	digits	
Spacing:	0.515	nm	
NMP ratio:	0.00 % (0 Pts)		

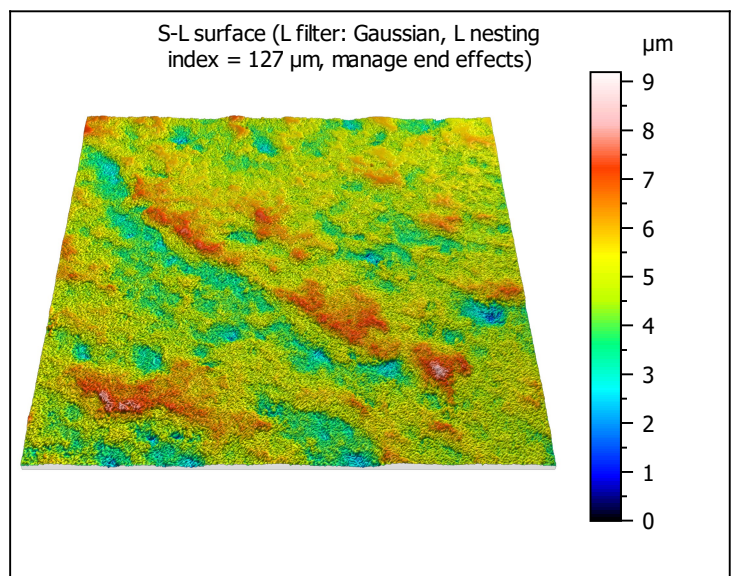
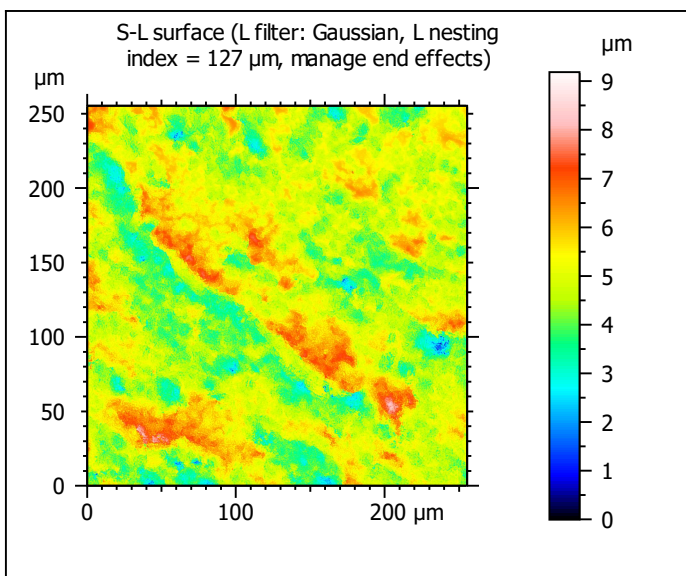
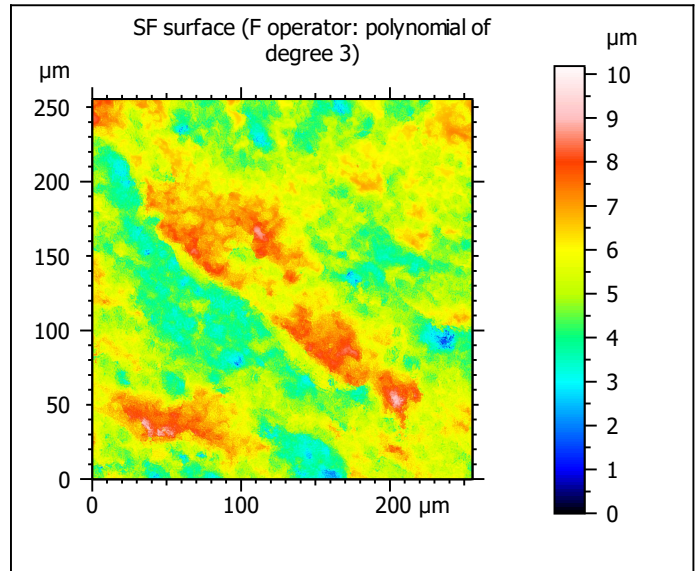
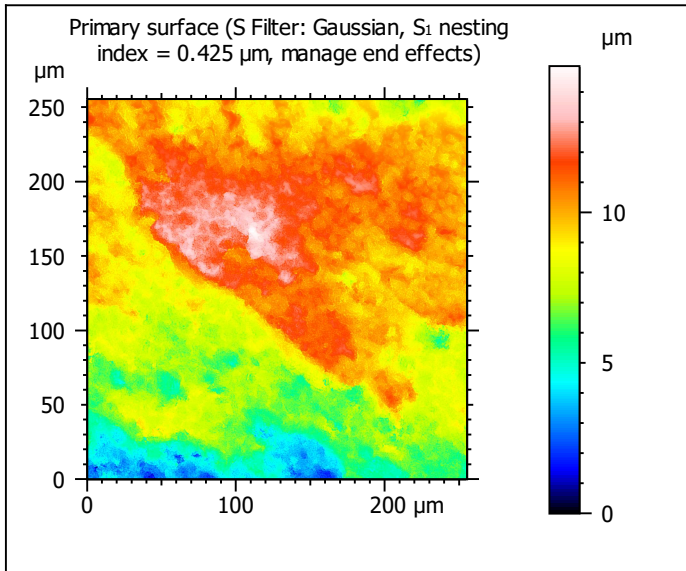
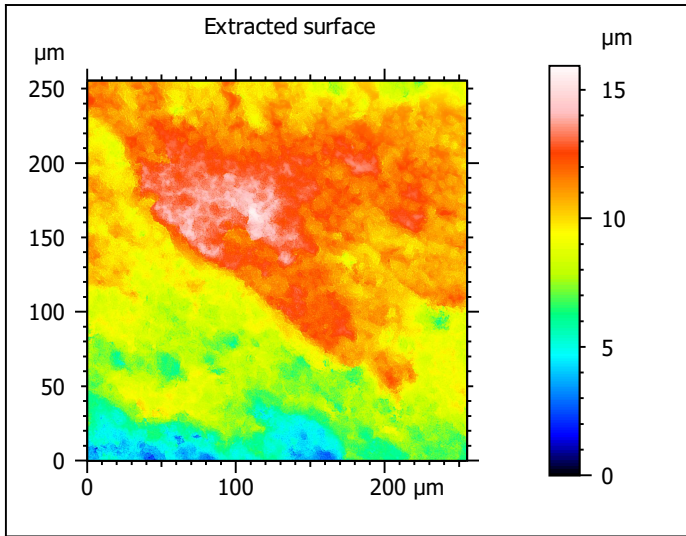


ISO 25178		
Height Parameters		
Sq	0.937	μm
Ssk	-0.0634	
Sku	5.76	
Sp	7.37	μm
Sv	5.01	μm
Sz	12.4	μm
Sa	0.693	μm
Functional Parameters		
Smr	0.0458	%
Smc	1.09	μm
Sxp	2.04	μm
Spatial Parameters		
Sal	11.5	μm
Str	0.773	
Std	130	°
Hybrid Parameters		
Sdq	0.860	
Sdr	22.3	%
Functional Parameters (V...)		
Vm	0.0554	μm ³ /μm ²
Vv	1.14	μm ³ /μm ²
Vmp	0.0554	μm ³ /μm ²
Vmc	0.730	μm ³ /μm ²
Vvc	1.01	μm ³ /μm ²
Vvv	0.132	μm ³ /μm ²
Functional Parameters (S...)		
Sk	1.73	μm
Spk	0.980	μm
Svk	1.04	μm
Smr1	10.4	%
Smr2	87.5	%
Spq	*****	
Svq	*****	
Smq	*****	

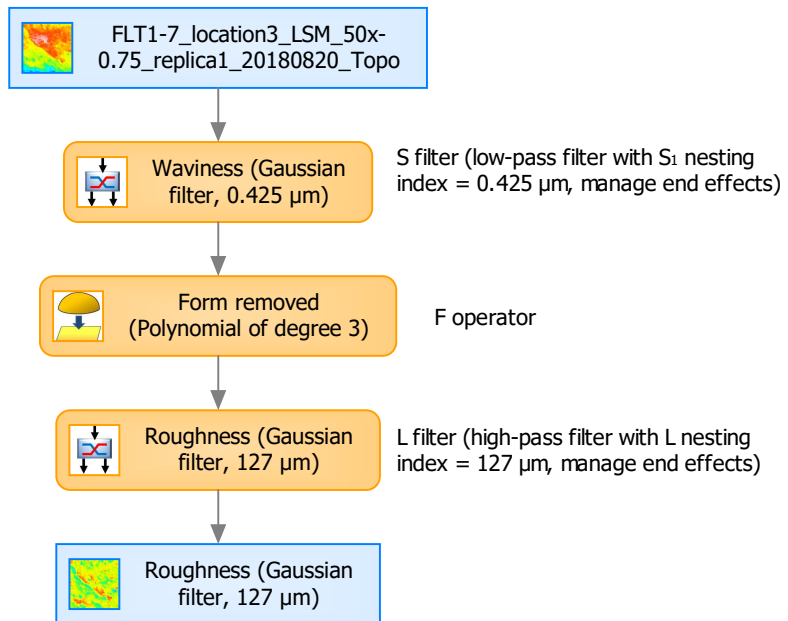


Flint FLT1-7
50x objective, NA = 0.75 or 0.95

Identity card - FLT1-7_location3_LSM_50x-...			
Name:	FLT1-7_location3_LSM_50x-0.75_replica1_2018...		
Created on:	8/20/2018 11:31:12 AM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	15.9	μm	
Size:	65532	digits	
Spacing:	0.243	nm	
NMP ratio:	0.00 % (0 Pts)		

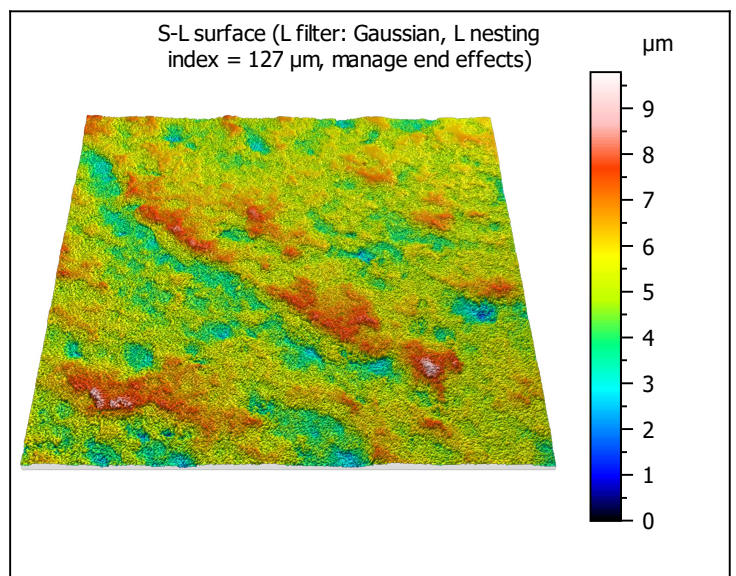
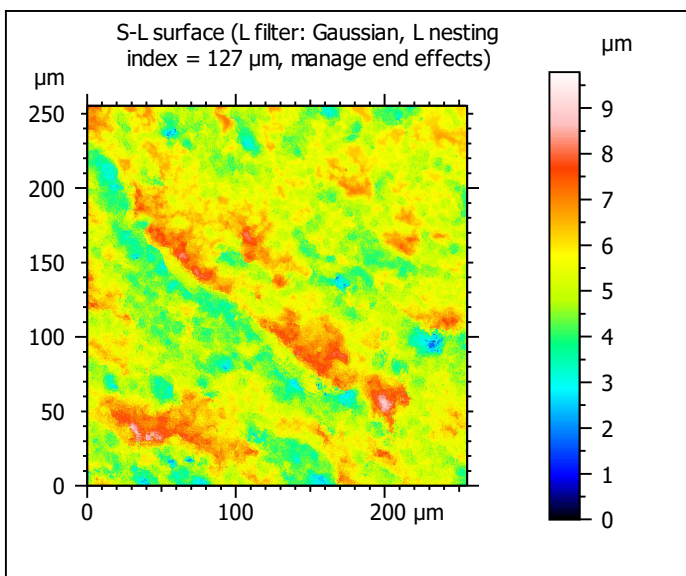
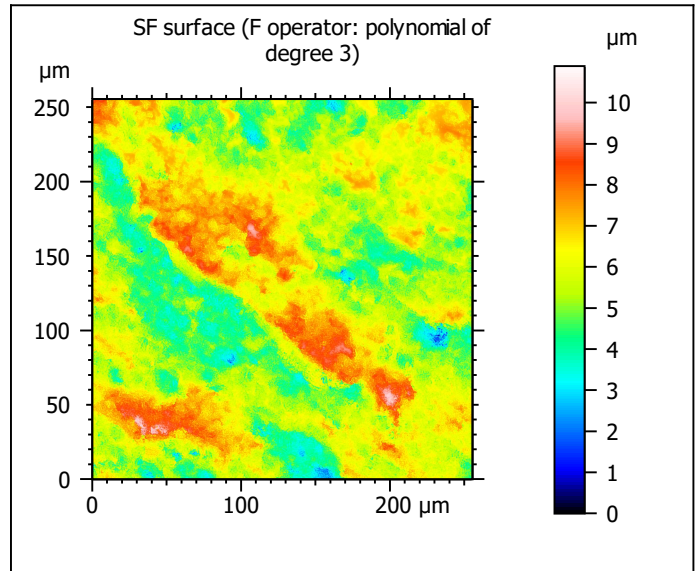
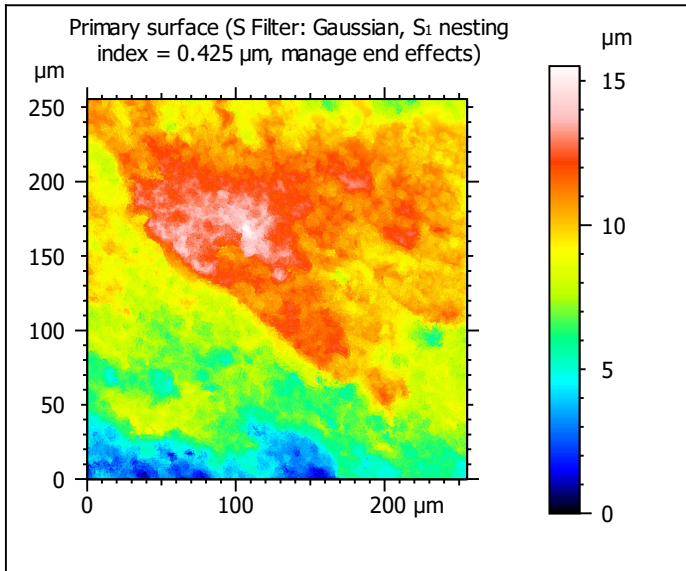
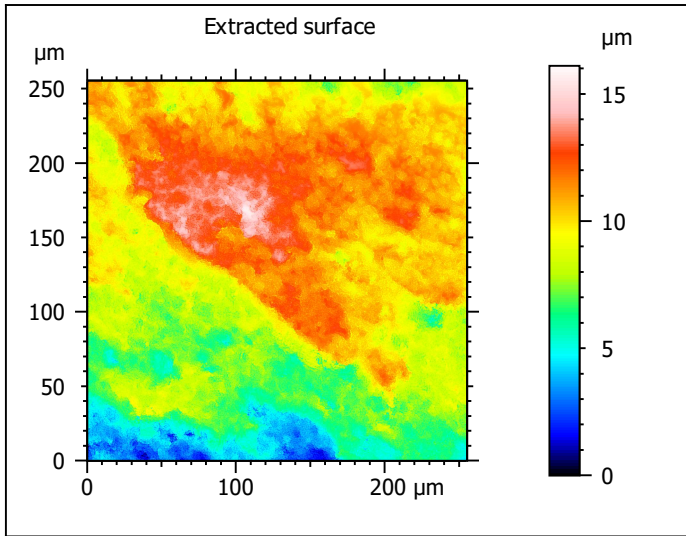


ISO 25178		
Height Parameters		
Sq	0.855	μm
Ssk	0.123	
Sku	3.40	
Sp	4.32	μm
Sv	4.87	μm
Sz	9.19	μm
Sa	0.667	μm
Functional Parameters		
Smr	0.0111	%
Smc	1.10	μm
Sxp	1.62	μm
Spatial Parameters		
Sal	11.8	μm
Str	0.403	
Std	141	°
Hybrid Parameters		
Sdq	1.64	
Sdr	72.3	%
Functional Parameters (V...		
Vm	0.0469	μm ³ /μm ²
Vv	1.15	μm ³ /μm ²
Vmp	0.0469	μm ³ /μm ²
Vmc	0.734	μm ³ /μm ²
Vvc	1.05	μm ³ /μm ²
Vvv	0.096	μm ³ /μm ²
Functional Parameters (S...		
Sk	1.62	μm
Spk	0.781	μm
Svk	0.808	μm
Smr1	11.1	%
Smr2	89.0	%
Spq	*****	
Svq	*****	
Smq	*****	

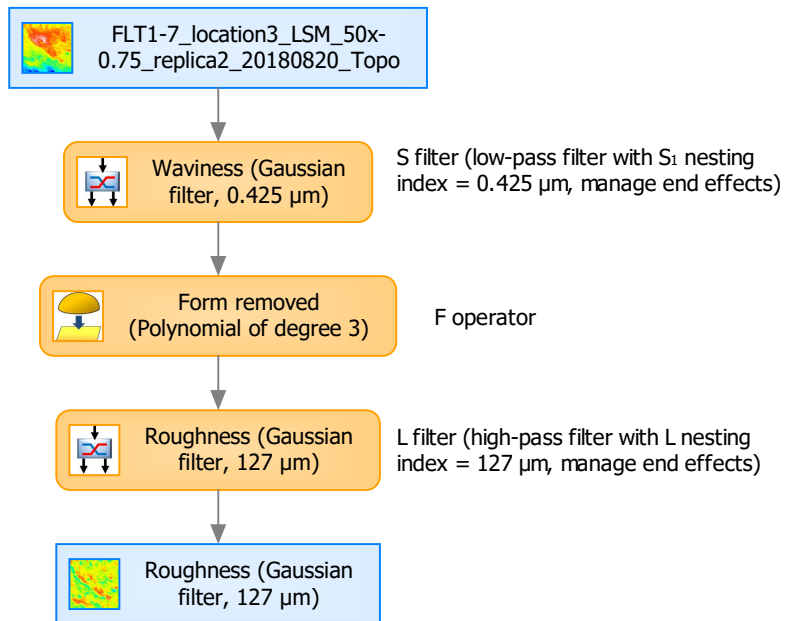


Flint FLT1-7
50x objective, NA = 0.75 or 0.95

Identity card - FLT1-7_location3_LSM_50x-...			
Name:	FLT1-7_location3_LSM_50x-0.75_replica2_2018...		
Created on:	8/20/2018 11:50:58 AM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	16.1	μm	
Size:	65532	digits	
Spacing:	0.246	nm	
NMP ratio:	0.00 % (0 Pts)		

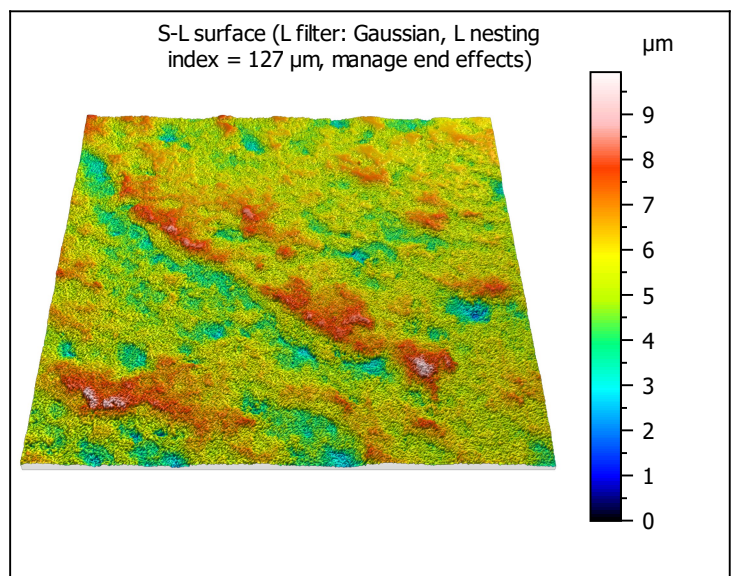
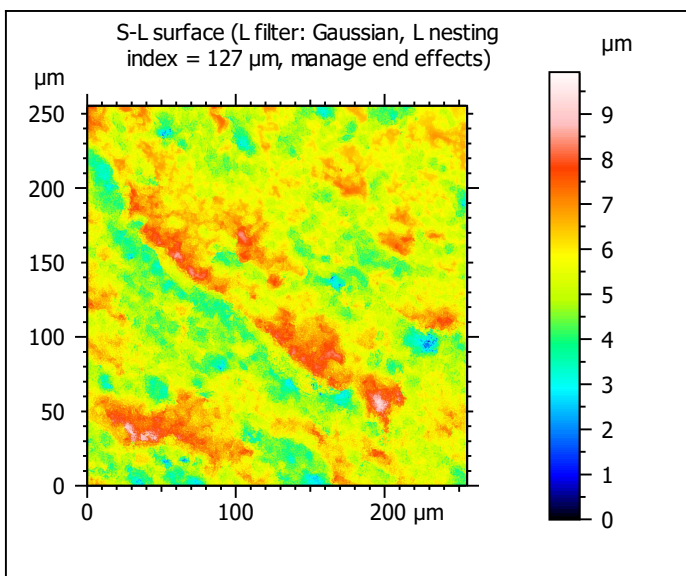
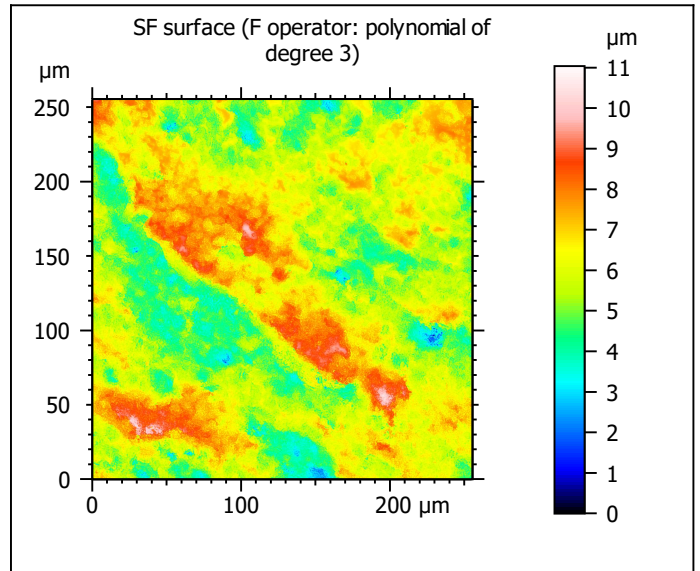
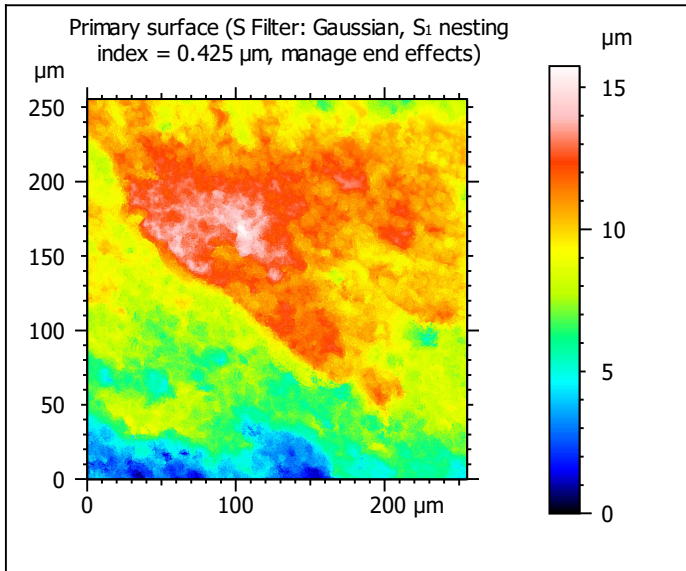
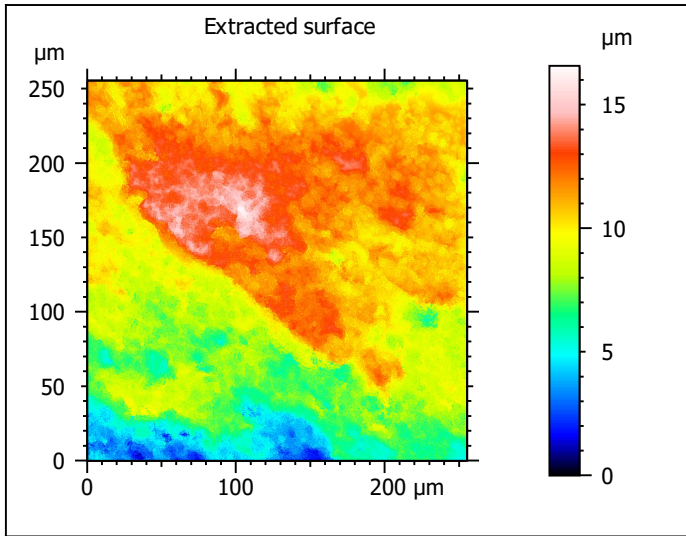


ISO 25178		
Height Parameters		
Sq	0.932	μm
Ssk	0.112	
Sku	3.42	
Sp	4.47	μm
Sv	5.32	μm
Sz	9.79	μm
Sa	0.727	μm
Functional Parameters		
Smr	0.0339	%
Smc	1.19	μm
Sxp	1.78	μm
Spatial Parameters		
Sal	11.9	μm
Str	0.388	
Std	141	°
Hybrid Parameters		
Sdq	1.78	
Sdr	81.6	%
Functional Parameters (V...)		
Vm	0.0516	μm ³ /μm ²
Vv	1.25	μm ³ /μm ²
Vmp	0.0516	μm ³ /μm ²
Vmc	0.800	μm ³ /μm ²
Vvc	1.14	μm ³ /μm ²
Vvv	0.106	μm ³ /μm ²
Functional Parameters (S...)		
Sk	1.76	μm
Spk	0.852	μm
Svk	0.884	μm
Smr1	10.9	%
Smr2	88.9	%
Spq	*****	
Svq	*****	
Smq	*****	

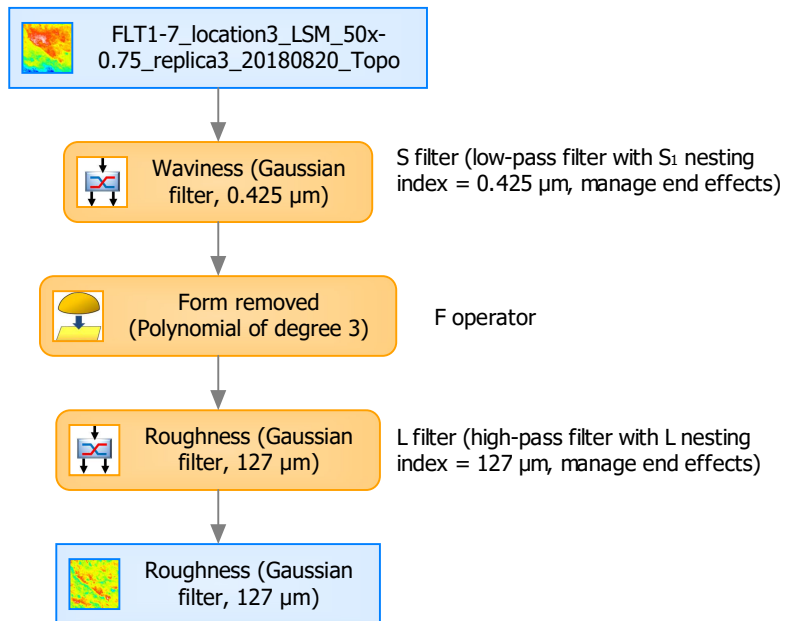


Flint FLT1-7
50x objective, NA = 0.75 or 0.95

Identity card - FLT1-7_location3_LSM_50x-...			
Name:	FLT1-7_location3_LSM_50x-0.75_replica3_2018...		
Created on:	8/20/2018 12:05:22 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	16.6	μm	
Size:	65532	digits	
Spacing:	0.253	nm	
NMP ratio:	0.00 % (0 Pts)		

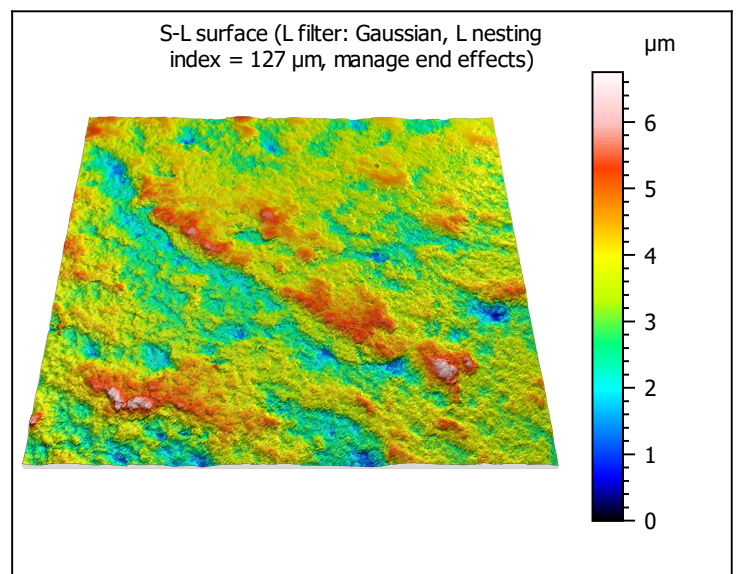
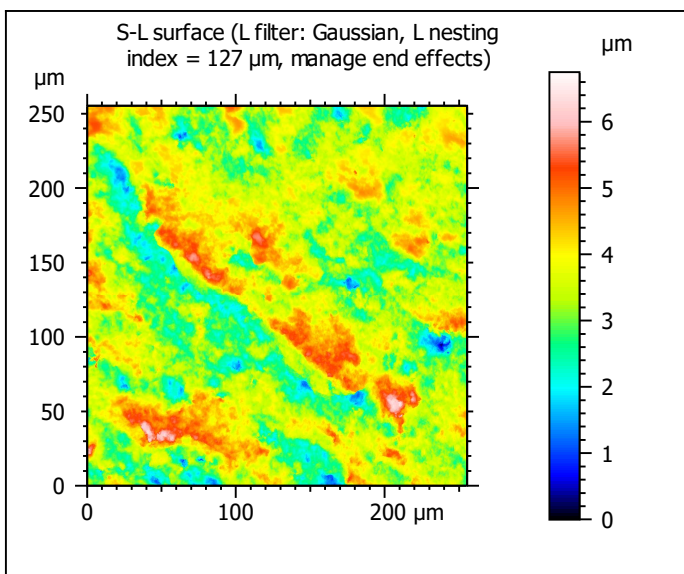
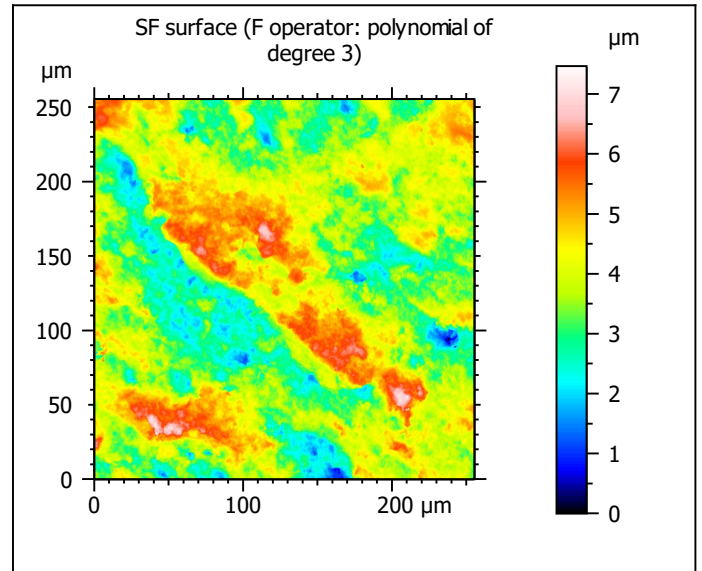
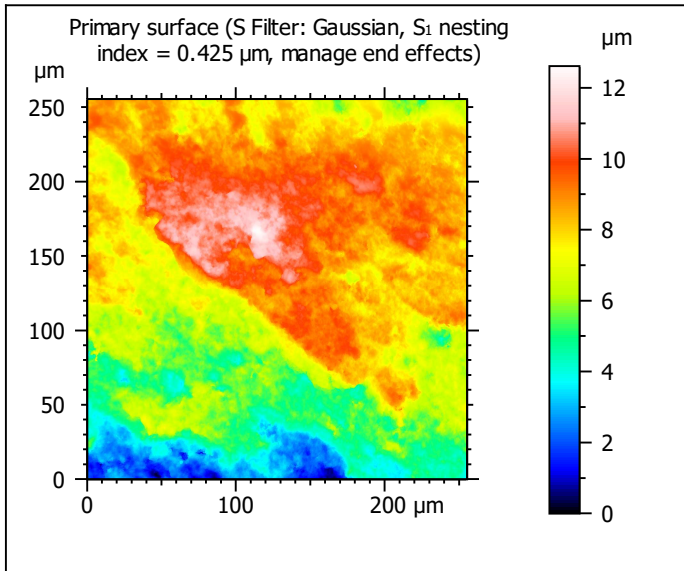
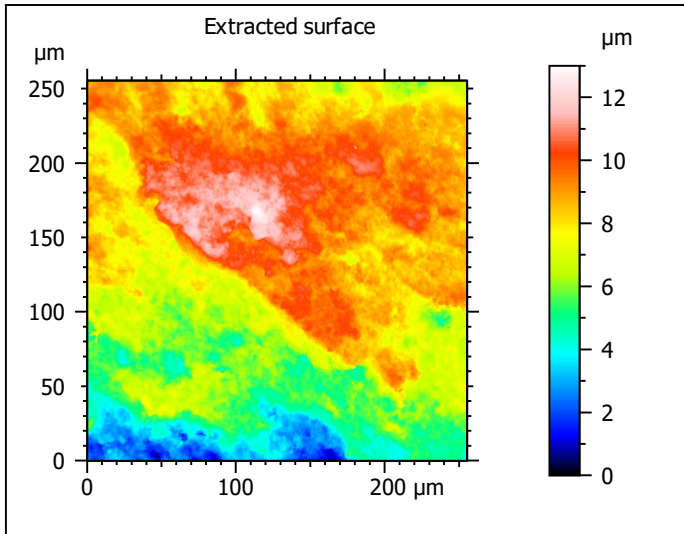


ISO 25178		
Height Parameters		
Sq	0.955	μm
Ssk	0.108	
Sku	3.42	
Sp	4.41	μm
Sv	5.53	μm
Sz	9.93	μm
Sa	0.745	μm
Functional Parameters		
Smr	0.0677	%
Smc	1.22	μm
Sxp	1.83	μm
Spatial Parameters		
Sal	11.9	μm
Str	0.380	
Std	141	°
Hybrid Parameters		
Sdq	1.82	
Sdr	84.1	%
Functional Parameters (V...		
Vm	0.053	μm ³ /μm ²
Vv	1.27	μm ³ /μm ²
Vmp	0.053	μm ³ /μm ²
Vmc	0.821	μm ³ /μm ²
Vvc	1.16	μm ³ /μm ²
Vvv	0.108	μm ³ /μm ²
Functional Parameters (S...		
Sk	1.79	μm
Spk	0.868	μm
Svk	0.909	μm
Smr1	11.0	%
Smr2	88.7	%
Spq	*****	
Svq	*****	
Smq	*****	

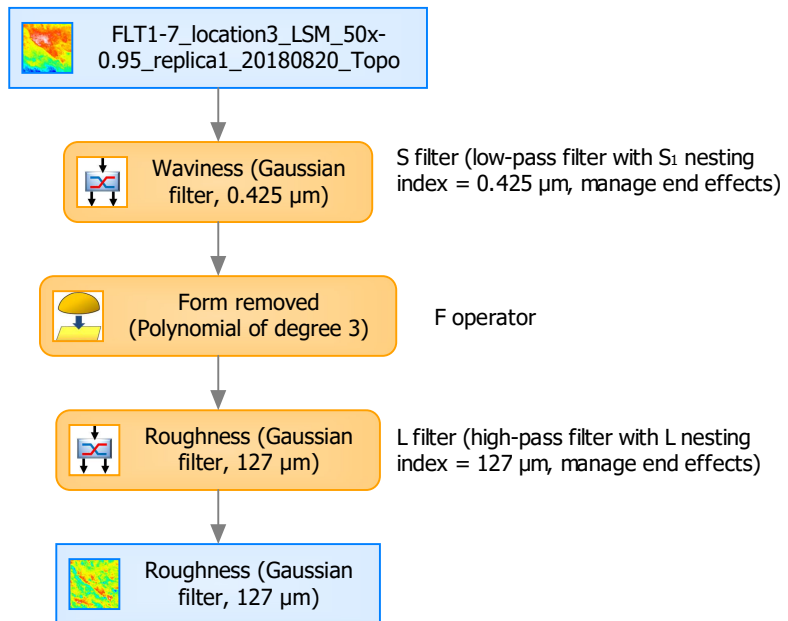


Flint FLT1-7
50x objective, NA = 0.75 or 0.95

Identity card - FLT1-7_location3_LSM_50x-...			
Name:	FLT1-7_location3_LSM_50x-0.95_replica1_2018...		
Created on:	8/20/2018 11:23:03 AM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	13.0	μm	
Size:	65532	digits	
Spacing:	0.198	nm	
NMP ratio:	0.00 % (0 Pts)		

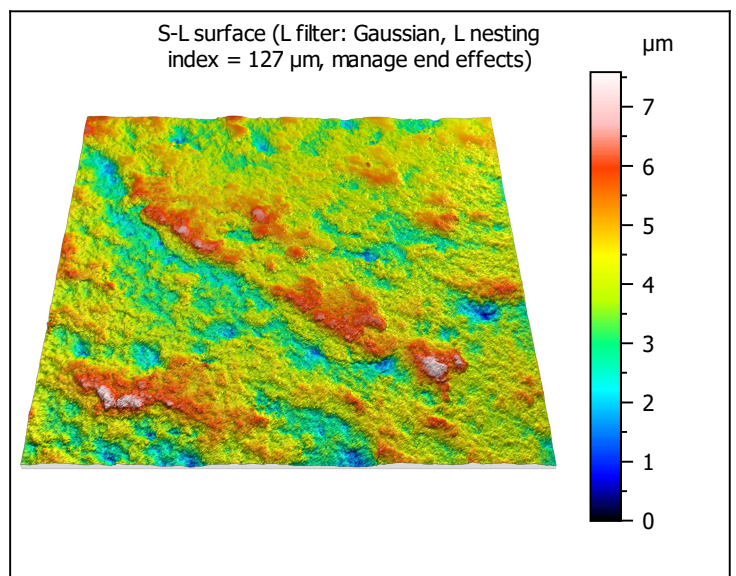
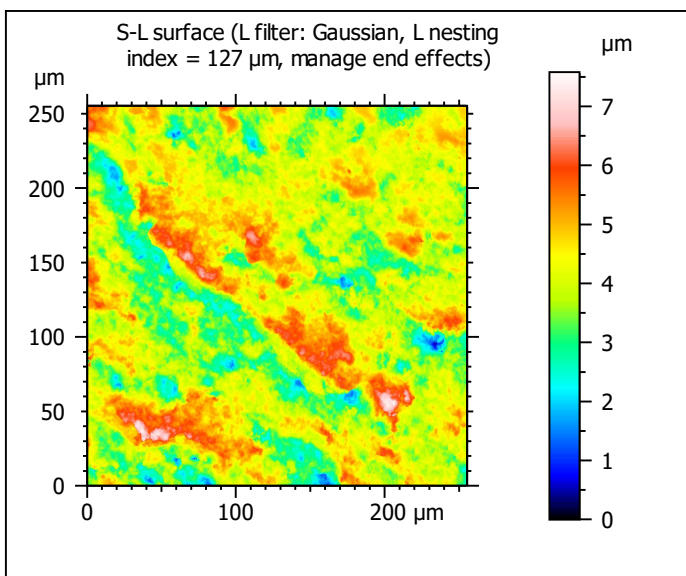
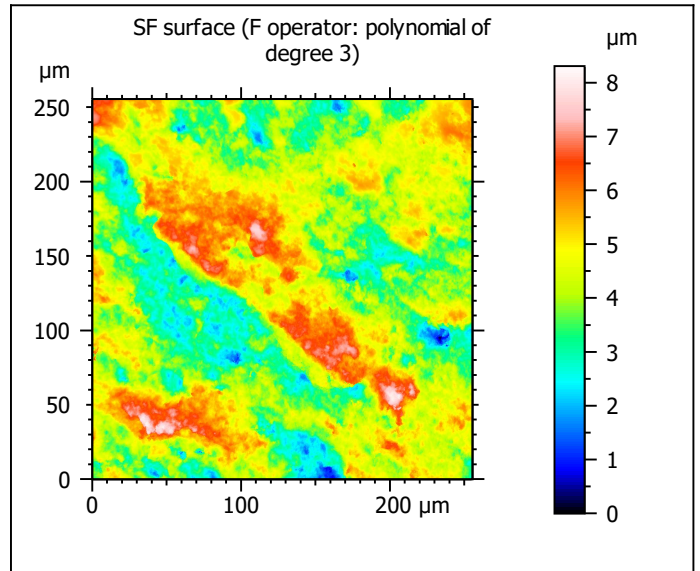
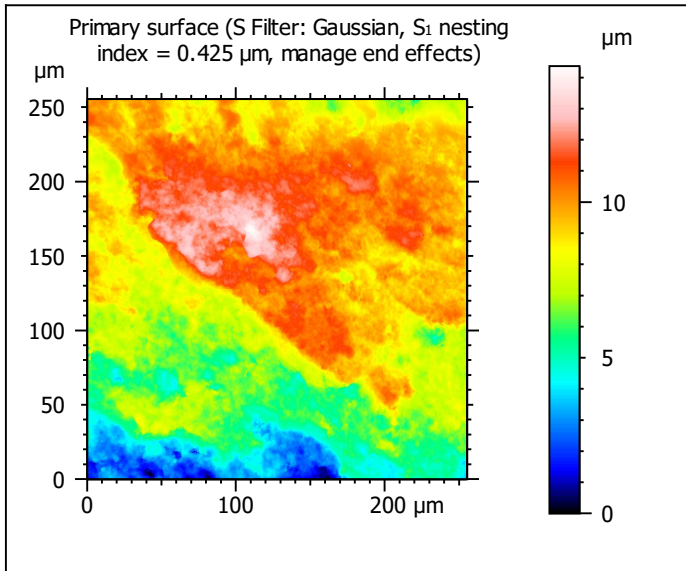
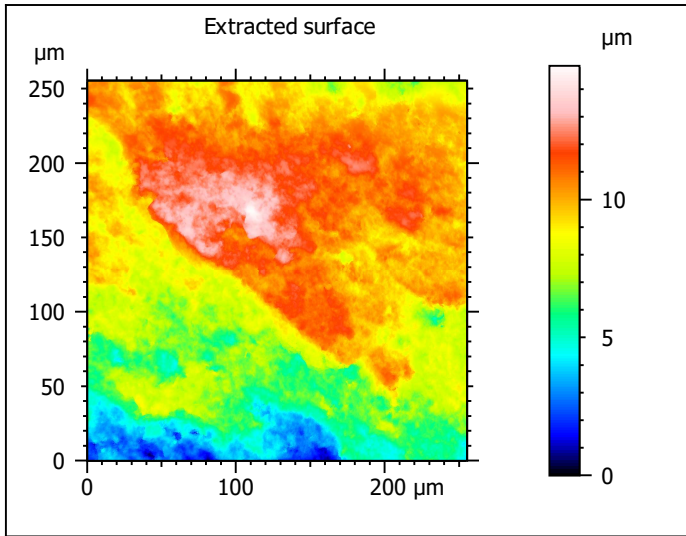


ISO 25178		
Height Parameters		
Sq	0.740	μm
Ssk	0.175	
Sku	3.38	
Sp	3.26	μm
Sv	3.50	μm
Sz	6.75	μm
Sa	0.576	μm
Functional Parameters		
Smr	0.306	%
Smc	0.958	μm
Sxp	1.38	μm
Spatial Parameters		
Sal	12.4	μm
Str	0.392	
Std	141	°
Hybrid Parameters		
Sdq	0.611	
Sdr	13.5	%
Functional Parameters (V...		
Vm	0.0419	μm ³ /μm ²
Vv	1.00	μm ³ /μm ²
Vmp	0.0419	μm ³ /μm ²
Vmc	0.634	μm ³ /μm ²
Vvc	0.918	μm ³ /μm ²
Vvv	0.0819	μm ³ /μm ²
Functional Parameters (S...		
Sk	1.33	μm
Spk	0.690	μm
Svk	0.679	μm
Smr1	11.8	%
Smr2	88.9	%
Spq	*****	
Svq	*****	
Smq	*****	

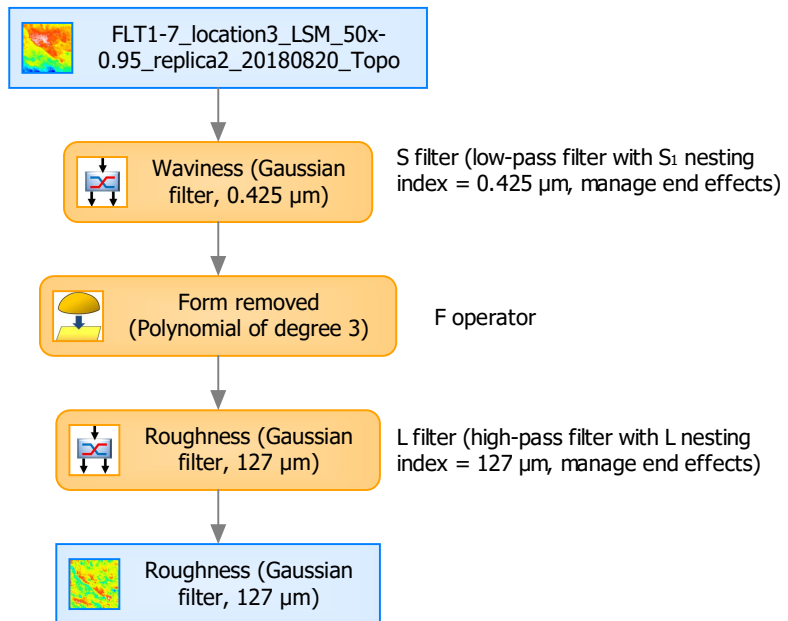


Flint FLT1-7
50x objective, NA = 0.75 or 0.95

Identity card - FLT1-7_location3_LSM_50x-...			
Name:	FLT1-7_location3_LSM_50x-0.95_replica2_2018...		
Created on:	8/20/2018 11:40:53 AM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	14.8	μm	
Size:	65532	digits	
Spacing:	0.227	nm	
NMP ratio:	0.00 % (0 Pts)		

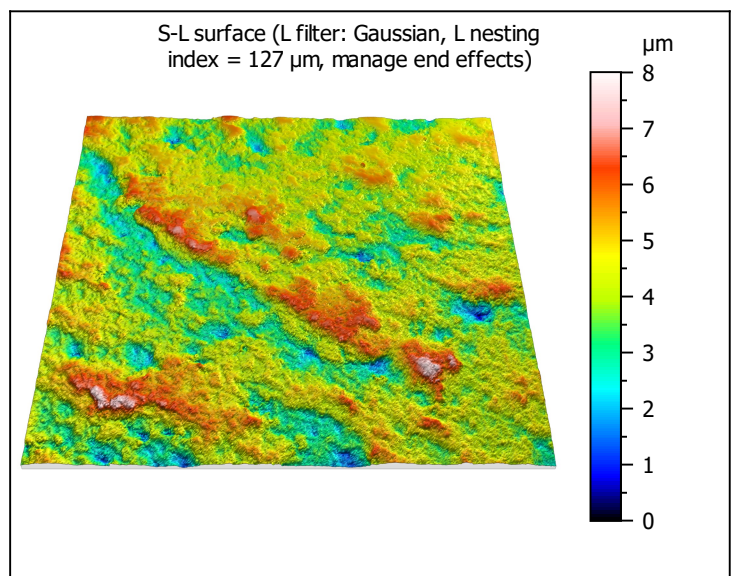
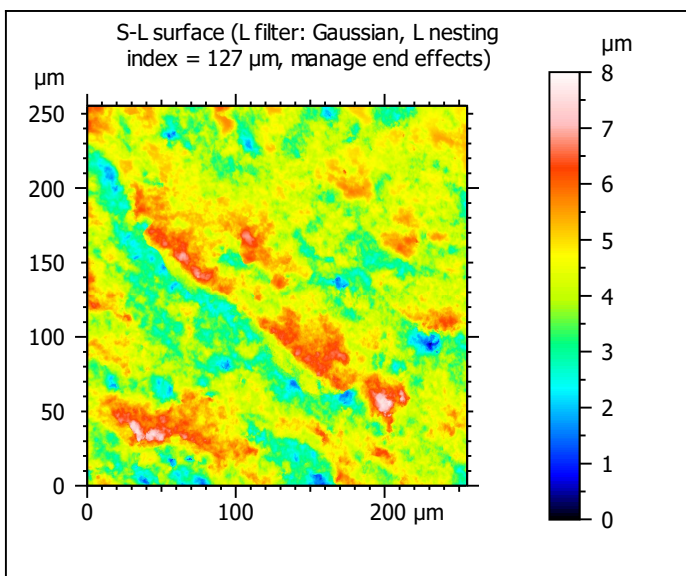
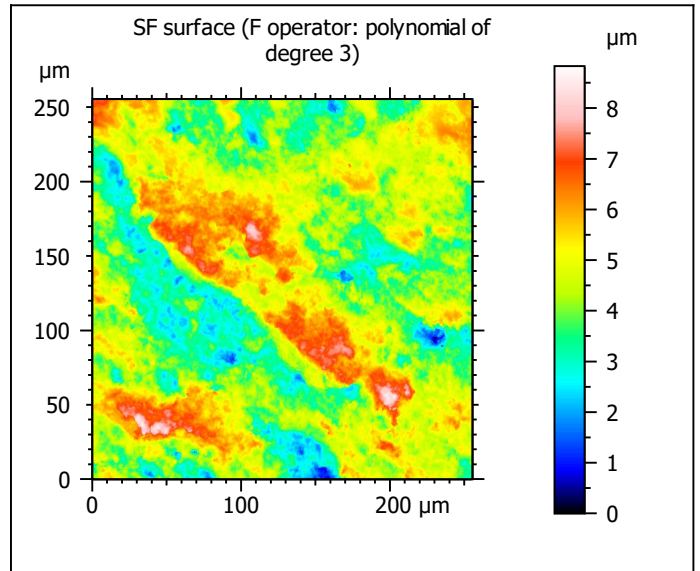
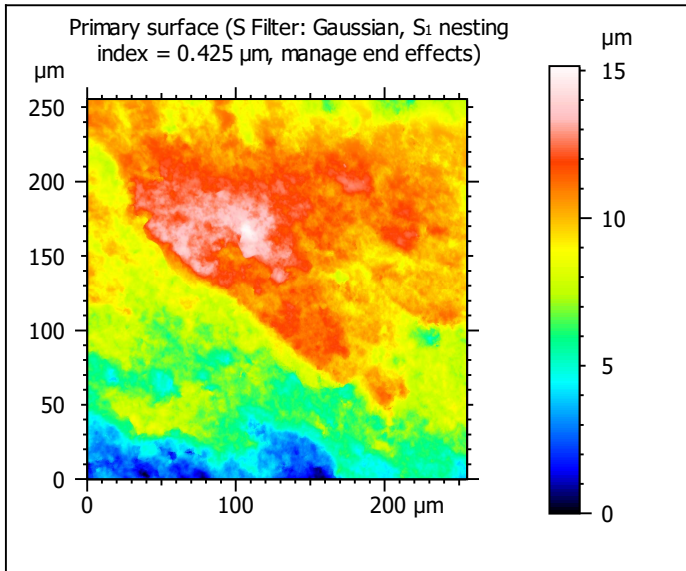
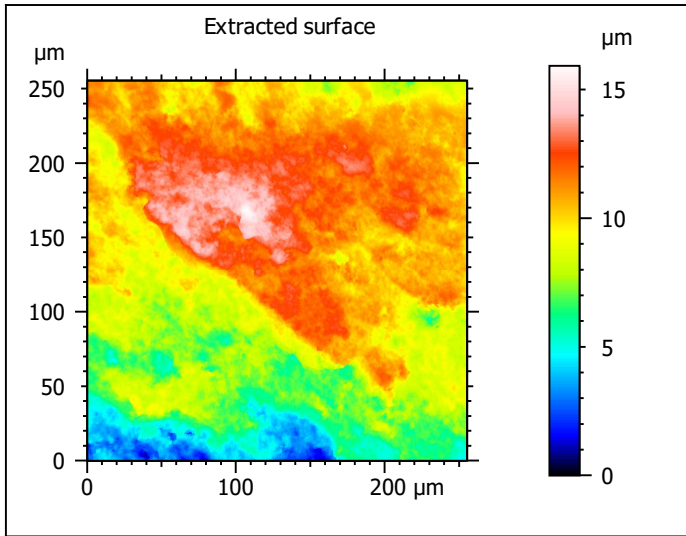


ISO 25178		
Height Parameters		
Sq	0.844	μm
Ssk	0.170	
Sku	3.40	
Sp	3.50	μm
Sv	4.09	μm
Sz	7.58	μm
Sa	0.657	μm
Functional Parameters		
Smr	0.363	%
Smc	1.09	μm
Sxp	1.58	μm
Spatial Parameters		
Sal	12.4	μm
Str	0.384	
Std	141	°
Hybrid Parameters		
Sdq	0.705	
Sdr	17.2	%
Functional Parameters (V...		
Vm	0.0481	μm ³ /μm ²
Vv	1.14	μm ³ /μm ²
Vmp	0.0481	μm ³ /μm ²
Vmc	0.723	μm ³ /μm ²
Vvc	1.04	μm ³ /μm ²
Vvv	0.0939	μm ³ /μm ²
Functional Parameters (S...		
Sk	1.52	μm
Spk	0.783	μm
Svk	0.773	μm
Smr1	11.5	%
Smr2	88.9	%
Spq	*****	
Svq	*****	
Smq	*****	

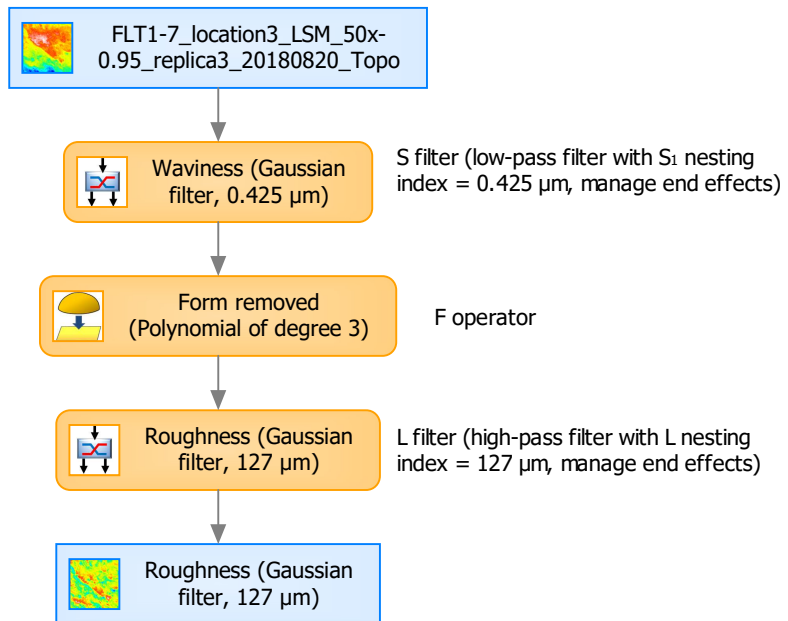


Flint FLT1-7
50x objective, NA = 0.75 or 0.95

Identity card - FLT1-7_location3_LSM_50x-...			
Name:	FLT1-7_location3_LSM_50x-0.95_replica3_2018...		
Created on:	8/20/2018 11:58:10 AM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	15.9	μm	
Size:	65532	digits	
Spacing:	0.243	nm	
NMP ratio:	0.00 % (0 Pts)		

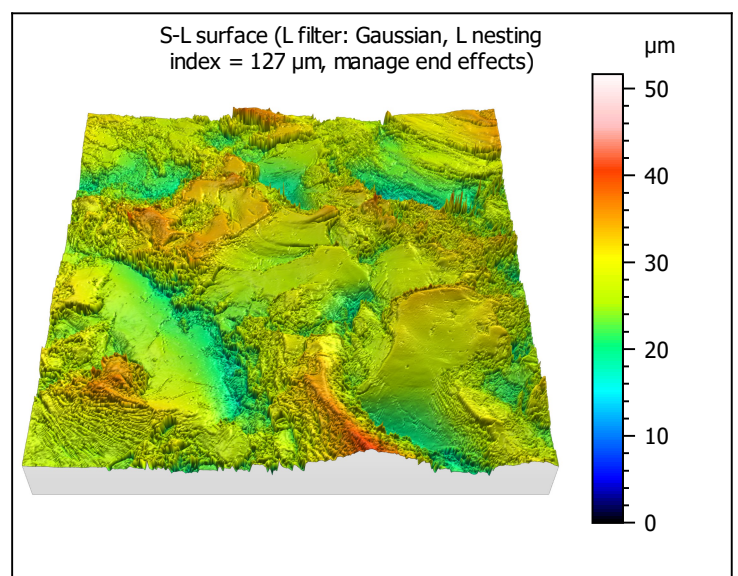
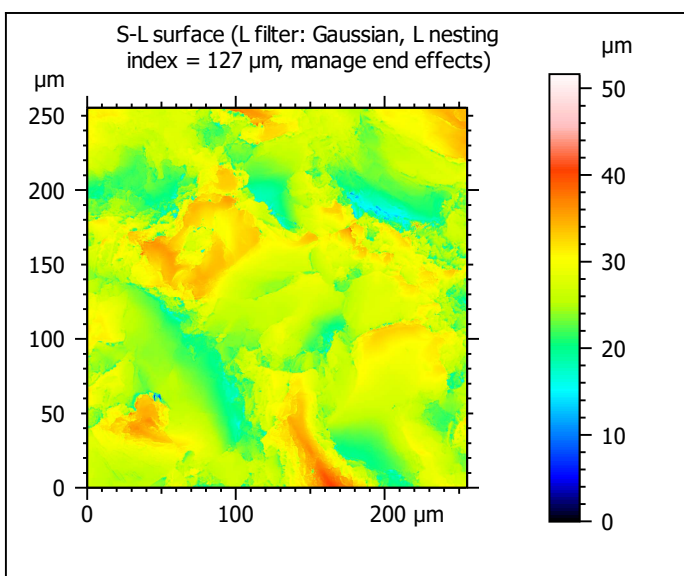
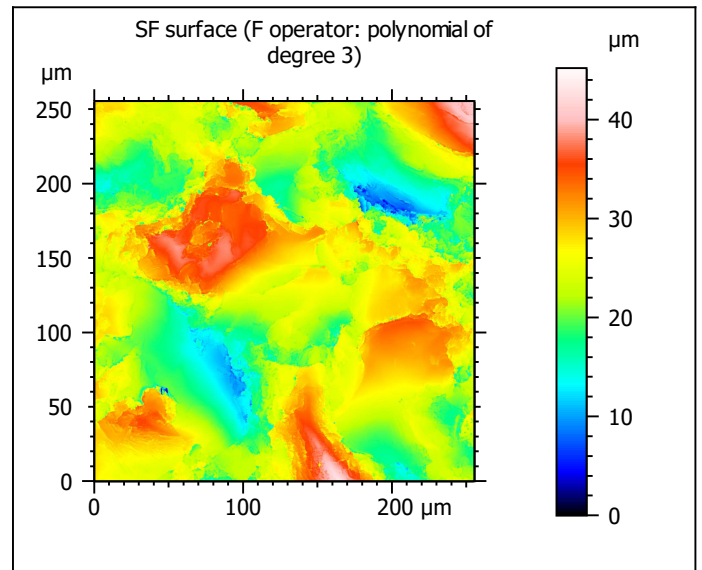
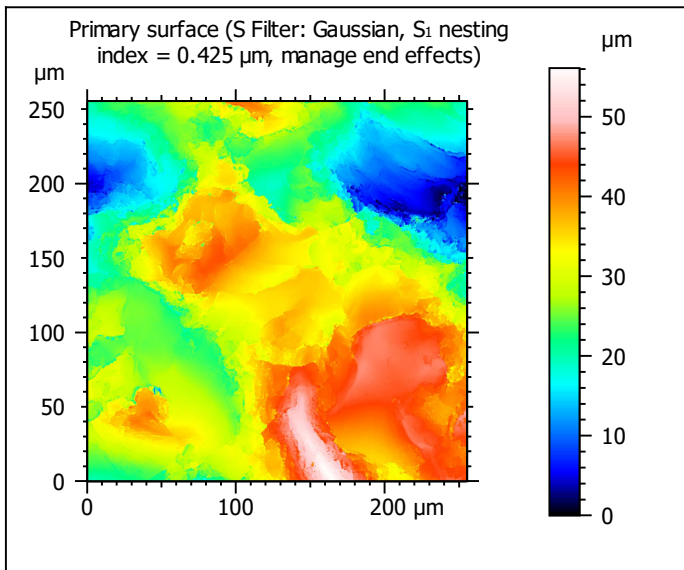
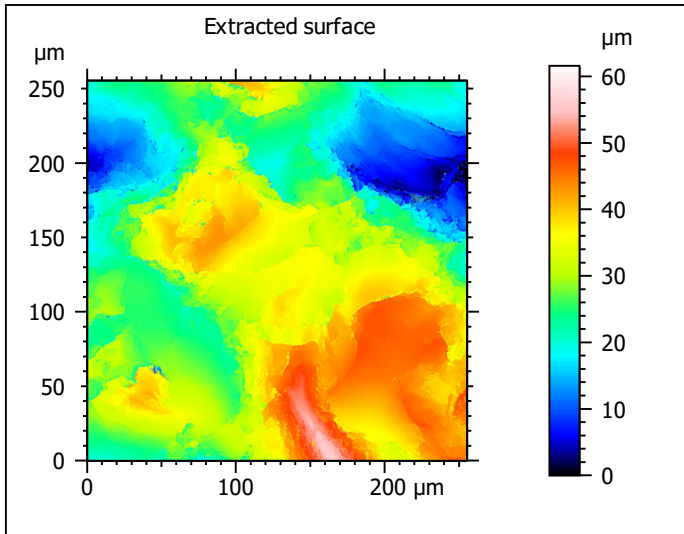


ISO 25178		
Height Parameters		
Sq	0.887	μm
Ssk	0.165	
Sku	3.40	
Sp	3.77	μm
Sv	4.23	μm
Sz	8.00	μm
Sa	0.691	μm
Functional Parameters		
Smr	0.268	%
Smc	1.14	μm
Sxp	1.66	μm
Spatial Parameters		
Sal	12.5	μm
Str	0.380	
Std	141	°
Hybrid Parameters		
Sdq	0.735	
Sdr	18.6	%
Functional Parameters (V...)		
Vm	0.0507	μm ³ /μm ²
Vv	1.19	μm ³ /μm ²
Vmp	0.0507	μm ³ /μm ²
Vmc	0.760	μm ³ /μm ²
Vvc	1.09	μm ³ /μm ²
Vvv	0.0992	μm ³ /μm ²
Functional Parameters (S...)		
Sk	1.60	μm
Spk	0.825	μm
Svk	0.809	μm
Smr1	11.5	%
Smr2	88.8	%
Spq	*****	
Svq	*****	
Smq	*****	

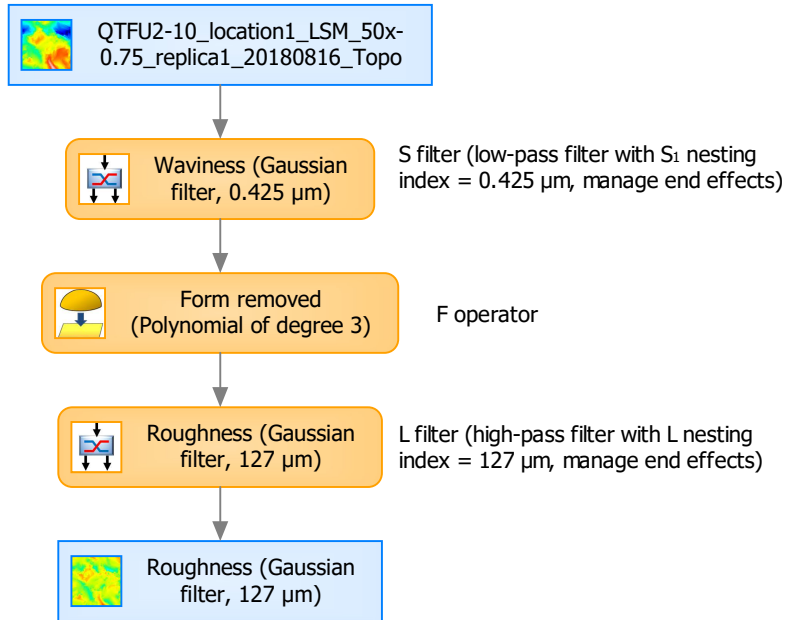


Quartzite QTFU2-10
50x objective, NA = 0.75 or 0.95

Identity card - QTFU2-10_location1_LSM_5...			
Name:	QTFU2-10_location1_LSM_50x-0.75_replica1_20...		
Created on:	8/16/2018 10:53:03 AM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	61.6	μm	
Size:	65532	digits	
Spacing:	0.940	nm	
NMP ratio:	0.00 % (0 Pts)		

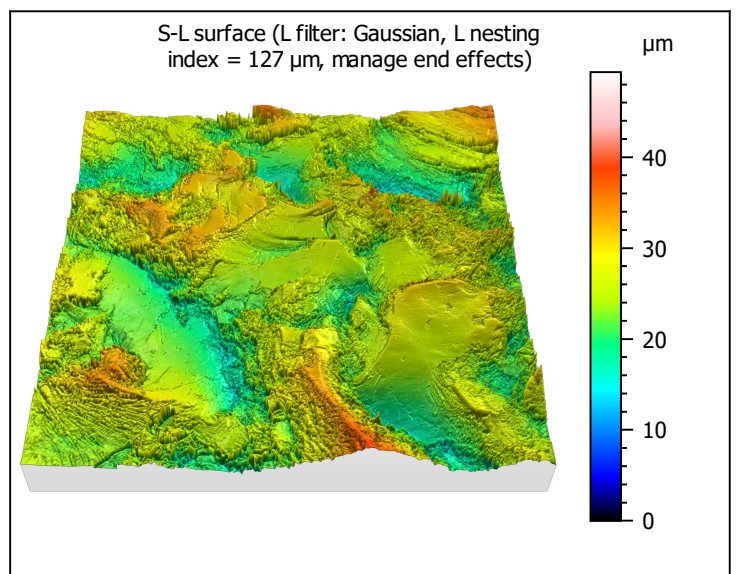
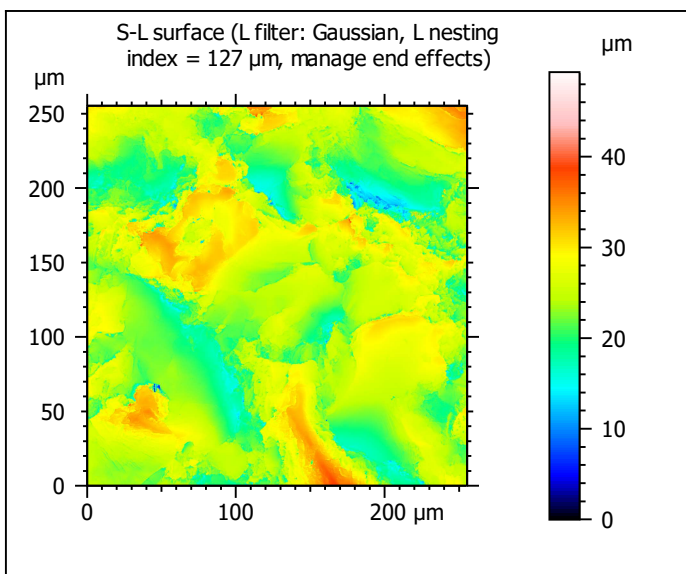
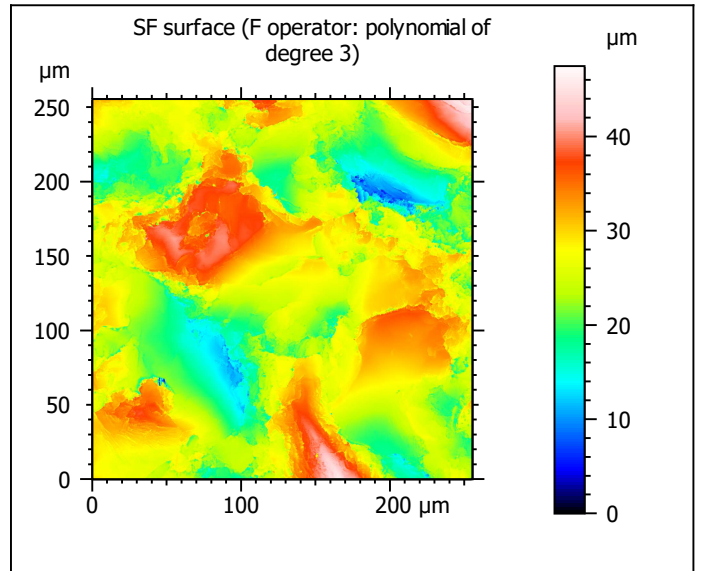
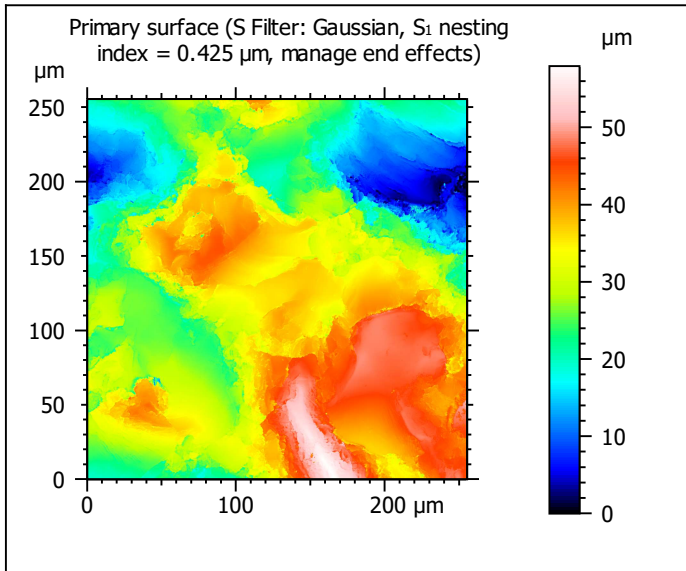
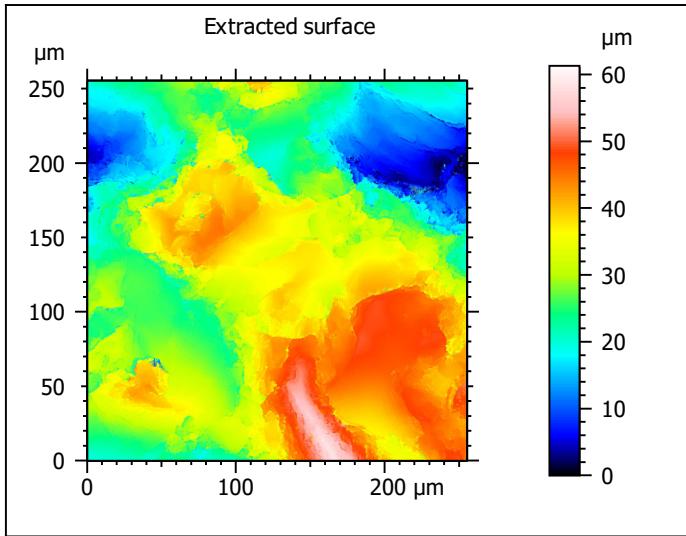


ISO 25178	
Height Parameters	
Sq	3.79 μm
Ssk	-0.0178
Sku	3.12
Sp	24.9 μm
Sv	26.8 μm
Sz	51.7 μm
Sa	3.00 μm
Functional Parameters	
Smr	1.11e-05 %
Smc	4.97 μm
Sxp	7.29 μm
Spatial Parameters	
Sal	20.0 μm
Str	0.630
Std	19.0 $^\circ$
Hybrid Parameters	
Sdq	4.82
Sdr	148 %
Functional Parameters (Vol...)	
Vm	0.174 $\mu\text{m}^3/\mu\text{m}^2$
Vv	5.14 $\mu\text{m}^3/\mu\text{m}^2$
Vmp	0.174 $\mu\text{m}^3/\mu\text{m}^2$
Vmc	3.35 $\mu\text{m}^3/\mu\text{m}^2$
Vvc	4.71 $\mu\text{m}^3/\mu\text{m}^2$
Vvv	0.440 $\mu\text{m}^3/\mu\text{m}^2$
Functional Parameters (Str...)	
Sk	5.45 μm
Spk	2.78 μm
Svk	3.47 μm
Smr1	12.0 %
Smr2	87.1 %
Spq	*****
Svq	*****
Smq	*****

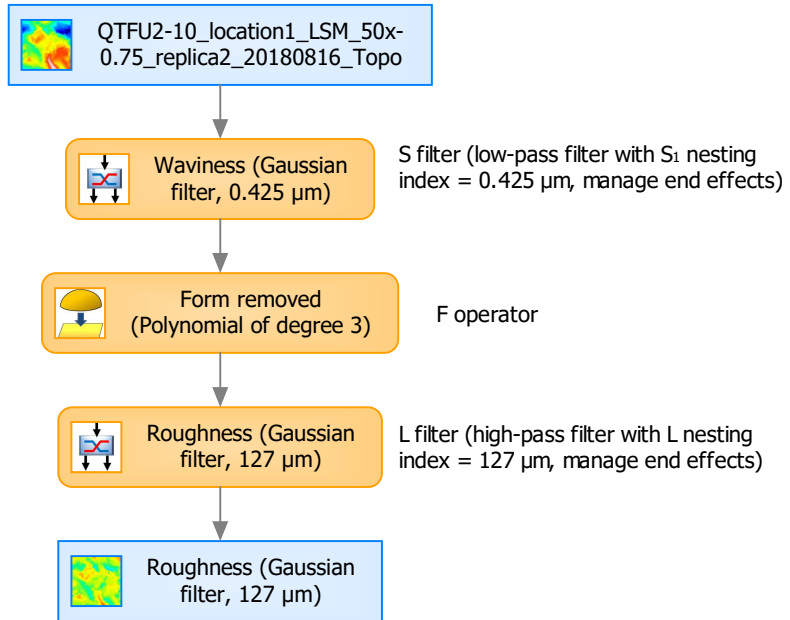


Quartzite QTFU2-10
50x objective, NA = 0.75 or 0.95

Identity card - QTFU2-10_location1_LSM_5...			
Name:	QTFU2-10_location1_LSM_50x-0.75_replica2_20...		
Created on:	8/16/2018 11:34:47 AM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	61.3	μm	
Size:	65532	digits	
Spacing:	0.935	nm	
NMP ratio:	0.00 % (0 Pts)		

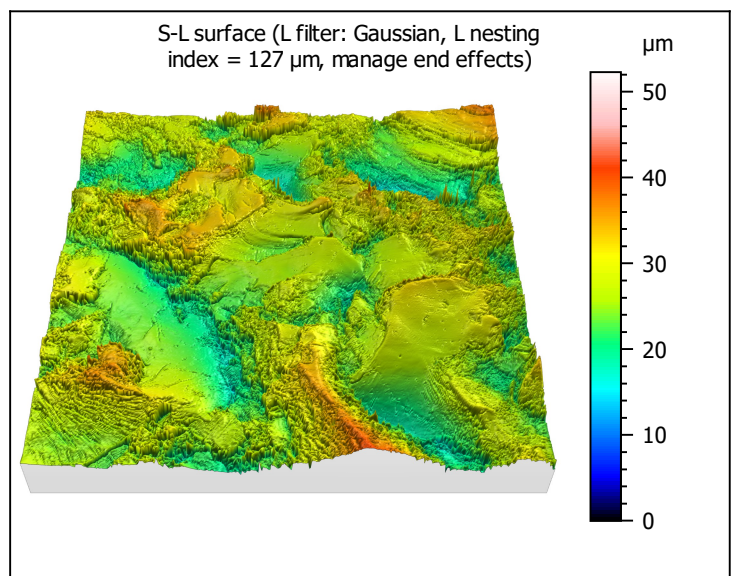
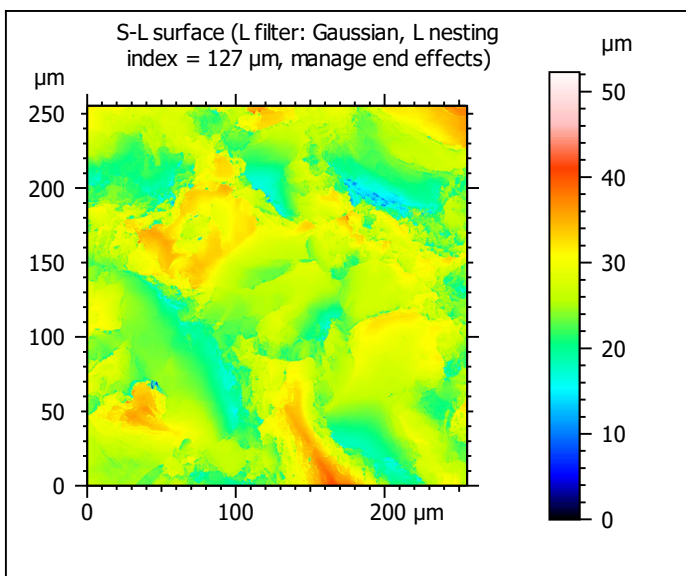
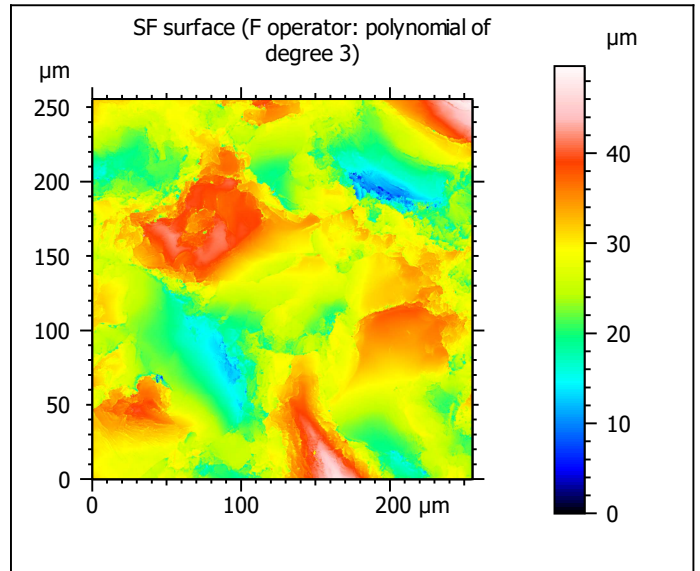
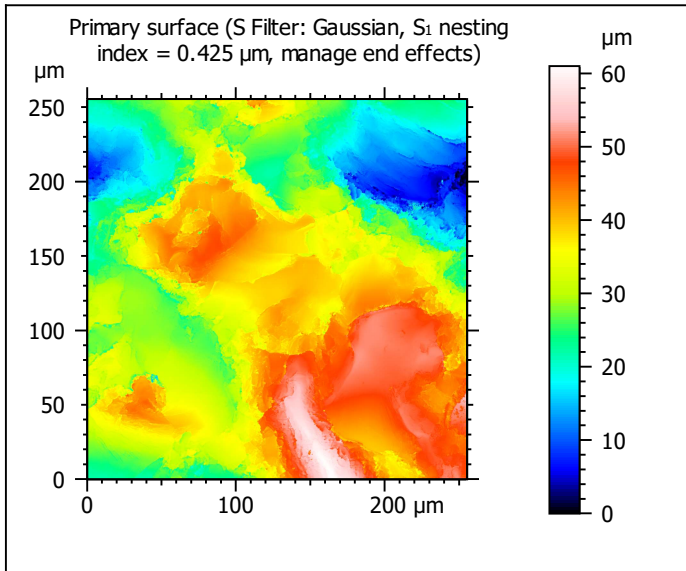
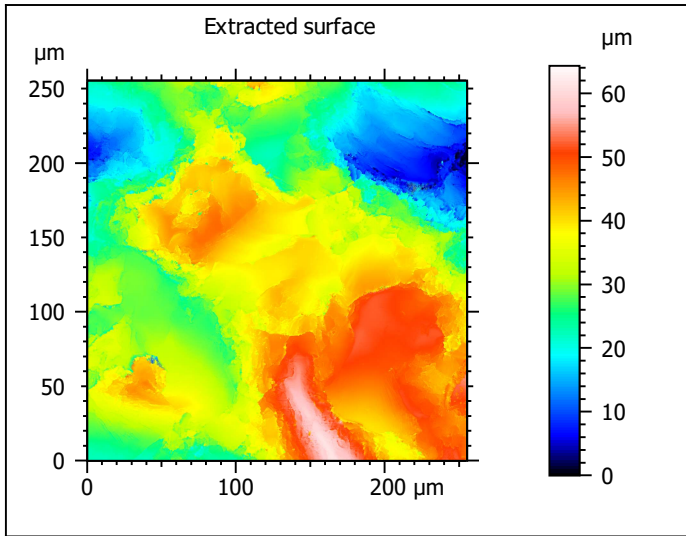


ISO 25178	
Height Parameters	
Sq	3.99 μm
Ssk	-0.000955
Sku	3.11
Sp	24.8 μm
Sv	24.6 μm
Sz	49.4 μm
Sa	3.16 μm
Functional Parameters	
Smr	3.33e-05 %
Smc	5.22 μm
Sxp	7.64 μm
Spatial Parameters	
Sal	19.8 μm
Str	0.630
Std	19.3 $^\circ$
Hybrid Parameters	
Sdq	4.92
Sdr	155 %
Functional Parameters (Vol...)	
Vm	0.185 $\mu\text{m}^3/\mu\text{m}^2$
Vv	5.41 $\mu\text{m}^3/\mu\text{m}^2$
Vmp	0.185 $\mu\text{m}^3/\mu\text{m}^2$
Vmc	3.50 $\mu\text{m}^3/\mu\text{m}^2$
Vvc	4.94 $\mu\text{m}^3/\mu\text{m}^2$
Vvv	0.467 $\mu\text{m}^3/\mu\text{m}^2$
Functional Parameters (Str...)	
Sk	5.80 μm
Spk	2.86 μm
Svk	3.56 μm
Smr1	11.6 %
Smr2	87.5 %
Spq	*****
Svq	*****
Smq	*****

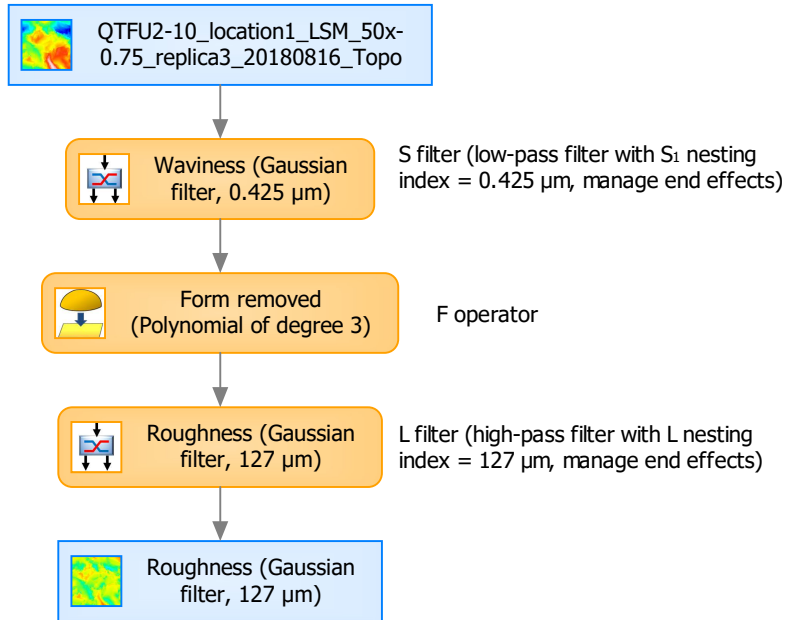


Quartzite QTFU2-10
50x objective, NA = 0.75 or 0.95

Identity card - QTFU2-10_location1_LSM_5...			
Name:	QTFU2-10_location1_LSM_50x-0.75_replica3_20...		
Created on:	8/16/2018 12:16:49 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	64.3	μm	
Size:	65532	digits	
Spacing:	0.981	nm	
NMP ratio:	0.00 % (0 Pts)		

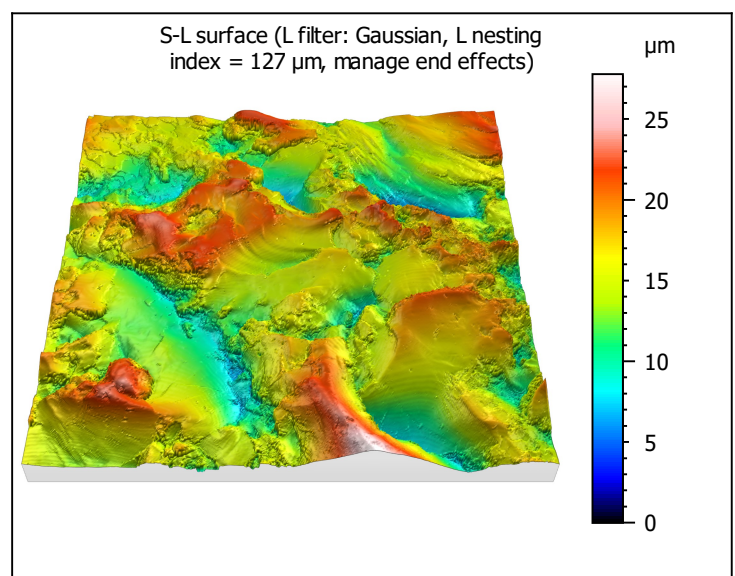
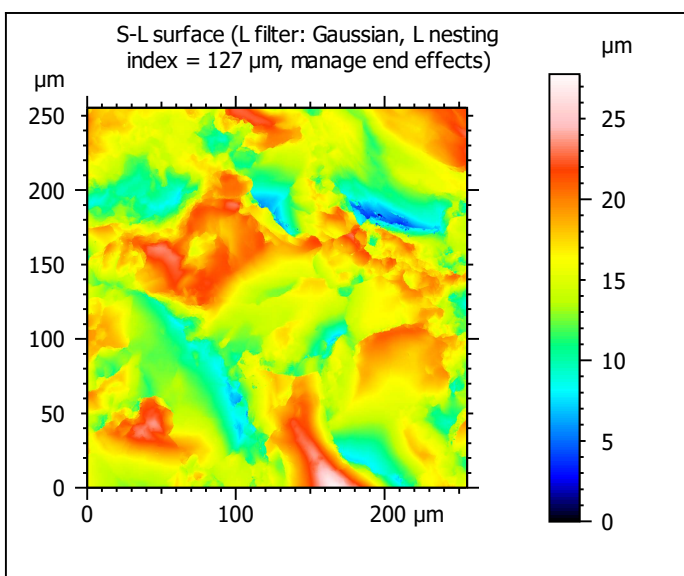
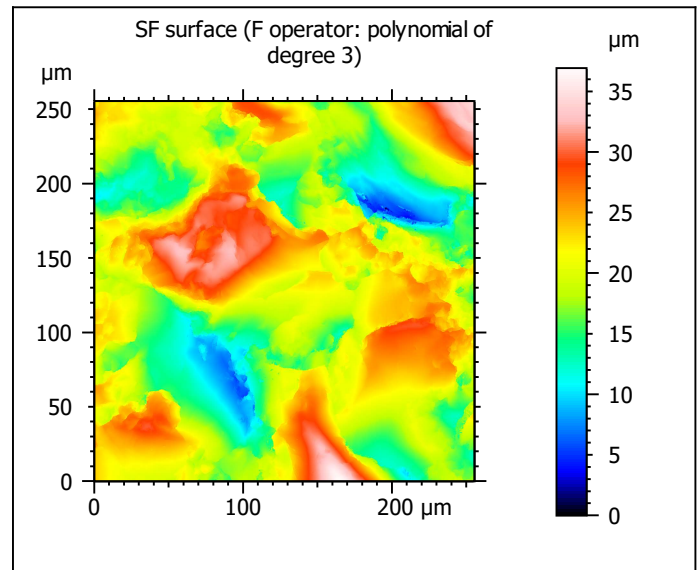
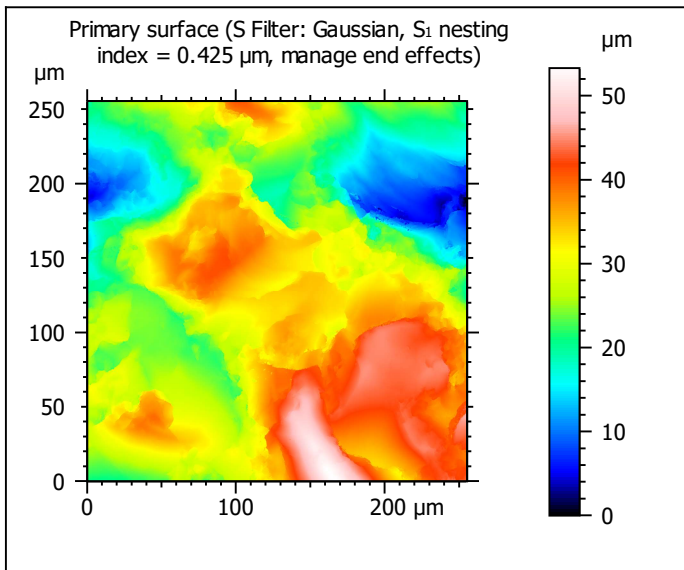
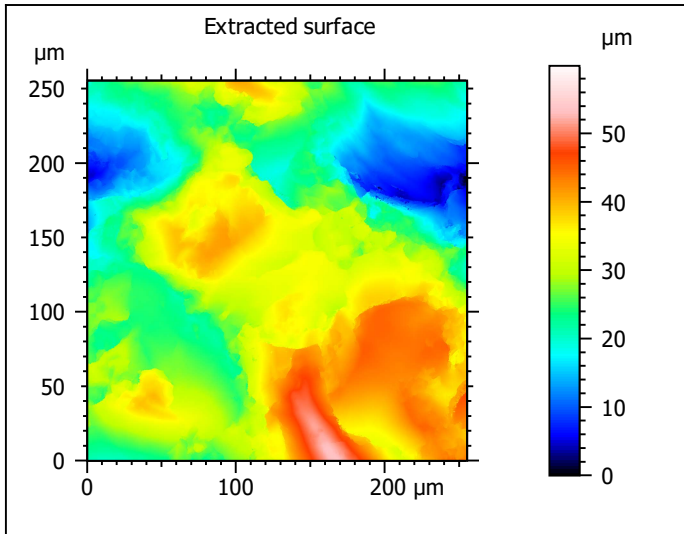


ISO 25178	
Height Parameters	
Sq	4.06 μm
Ssk	-0.00287
Sku	3.12
Sp	26.3 μm
Sv	26.0 μm
Sz	52.3 μm
Sa	3.21 μm
Functional Parameters	
Smr	1.11e-05 %
Smc	5.34 μm
Sxp	7.77 μm
Spatial Parameters	
Sal	19.8 μm
Str	0.630
Std	20.0 $^\circ$
Hybrid Parameters	
Sdq	5.02
Sdr	159 %
Functional Parameters (Vol...)	
Vm	0.187 $\mu\text{m}^3/\mu\text{m}^2$
Vv	5.52 $\mu\text{m}^3/\mu\text{m}^2$
Vmp	0.187 $\mu\text{m}^3/\mu\text{m}^2$
Vmc	3.56 $\mu\text{m}^3/\mu\text{m}^2$
Vvc	5.05 $\mu\text{m}^3/\mu\text{m}^2$
Vvv	0.478 $\mu\text{m}^3/\mu\text{m}^2$
Functional Parameters (Str...)	
Sk	5.91 μm
Spk	2.90 μm
Svk	3.68 μm
Smr1	11.6 %
Smr2	87.7 %
Spq	*****
Svq	*****
Smq	*****

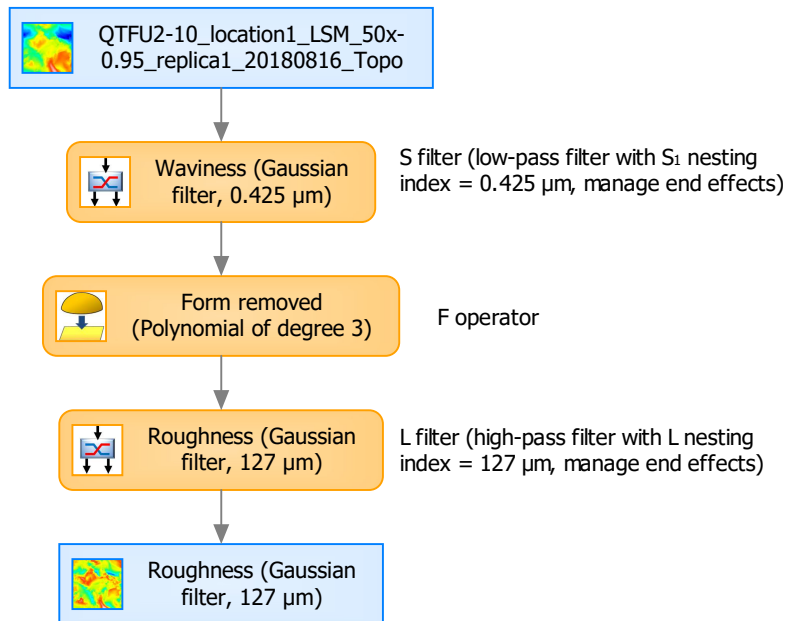


Quartzite QTFU2-10
50x objective, NA = 0.75 or 0.95

Identity card - QTFU2-10_location1_LSM_5...			
Name:	QTFU2-10_location1_LSM_50x-0.95_replica1_20...		
Created on:	8/16/2018 10:33:48 AM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	59.9	μm	
Size:	65532	digits	
Spacing:	0.914	nm	
NMP ratio:	0.00 % (0 Pts)		

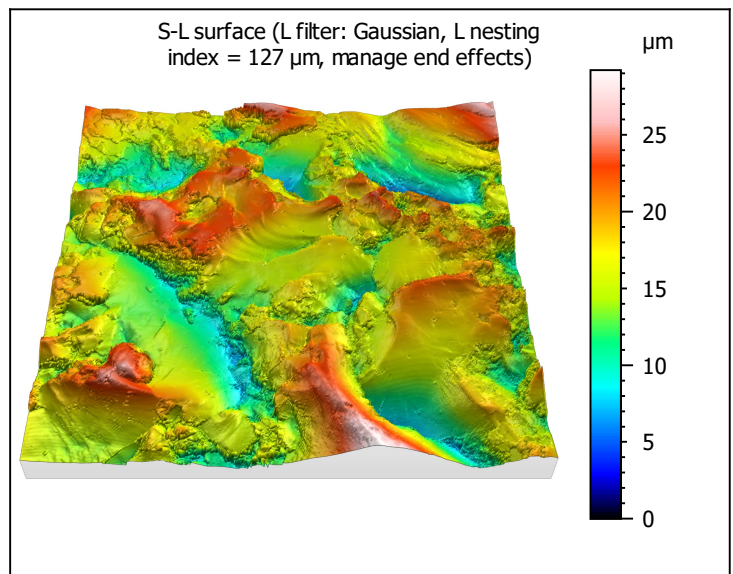
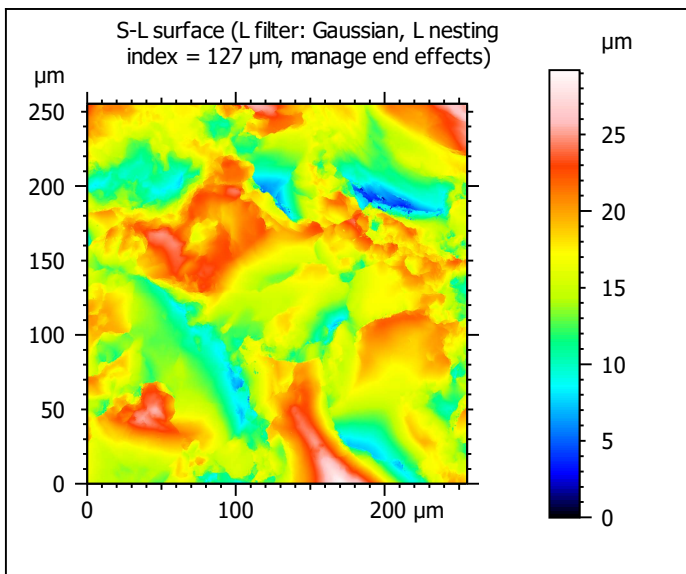
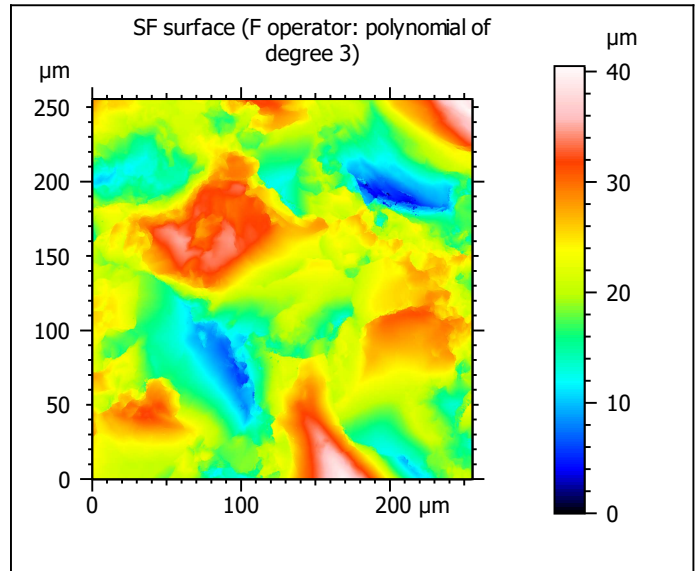
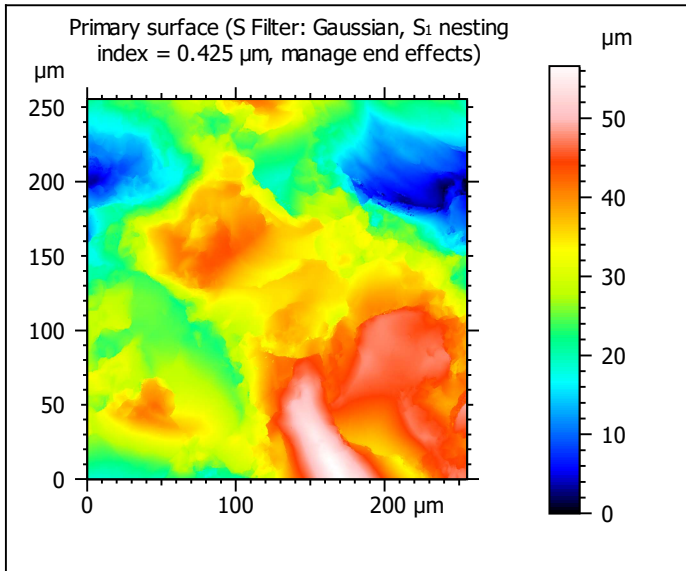
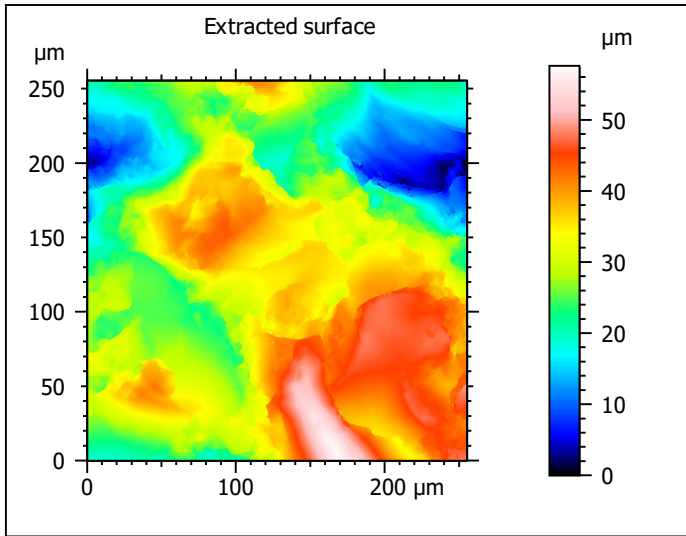


ISO 25178		
Height Parameters		
Sq	3.42	μm
Ssk	-0.0409	
Sku	2.93	
Sp	12.4	μm
Sv	15.3	μm
Sz	27.8	μm
Sa	2.72	μm
Functional Parameters		
Smr	0.0435	%
Smc	4.56	μm
Sxp	6.76	μm
Spatial Parameters		
Sal	20.2	μm
Str	0.606	
Std	129	°
Hybrid Parameters		
Sdq	1.93	
Sdr	40.8	%
Functional Parameters (V...)		
Vm	0.140	μm ³ /μm ²
Vv	4.70	μm ³ /μm ²
Vmp	0.140	μm ³ /μm ²
Vmc	3.10	μm ³ /μm ²
Vvc	4.31	μm ³ /μm ²
Vvv	0.394	μm ³ /μm ²
Functional Parameters (S...)		
Sk	4.70	μm
Spk	2.17	μm
Svk	2.77	μm
Smr1	11.6	%
Smr2	86.5	%
Spq	*****	
Svq	*****	
Smq	*****	

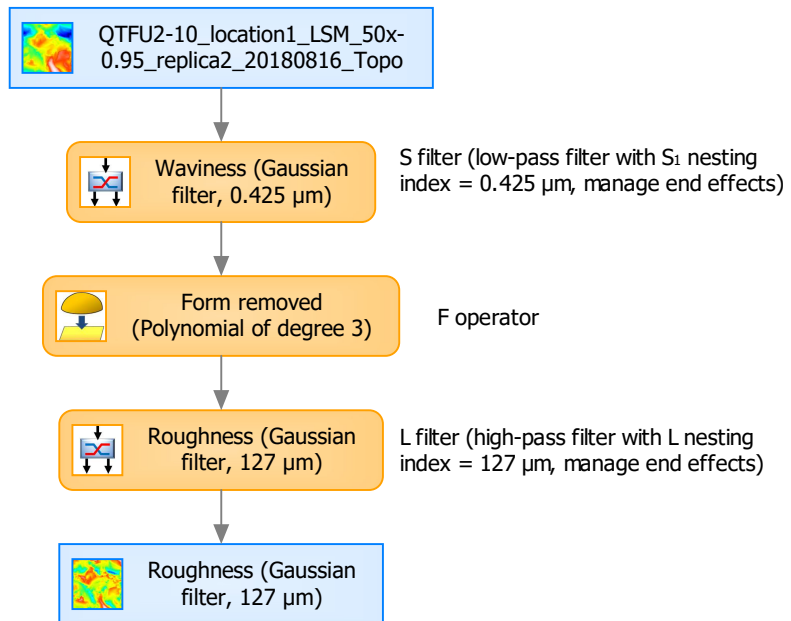


Quartzite QTFU2-10
50x objective, NA = 0.75 or 0.95

Identity card - QTFU2-10_location1_LSM_5...			
Name:	QTFU2-10_location1_LSM_50x-0.95_replica2_20...		
Created on:	8/16/2018 11:12:49 AM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	57.6	μm	
Size:	65532	digits	
Spacing:	0.879	nm	
NMP ratio:	0.00 % (0 Pts)		

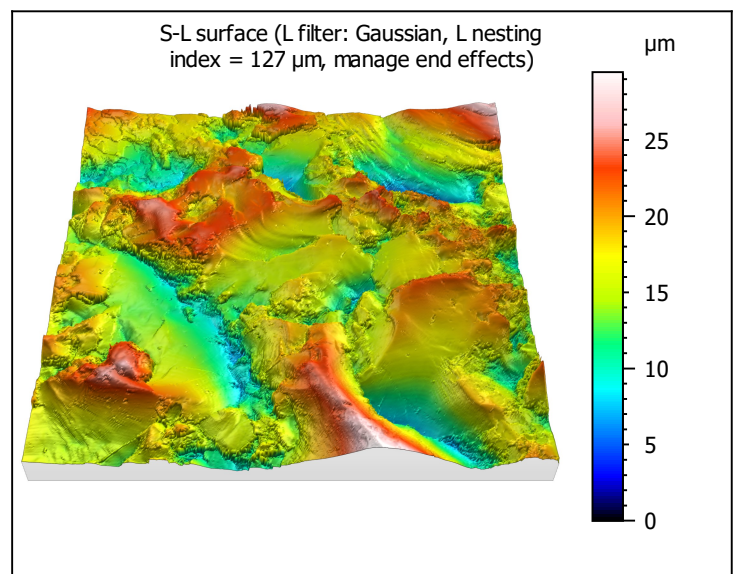
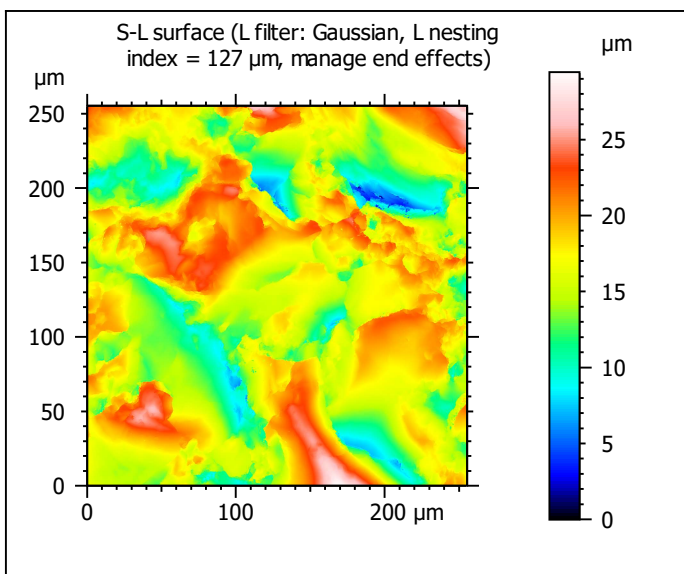
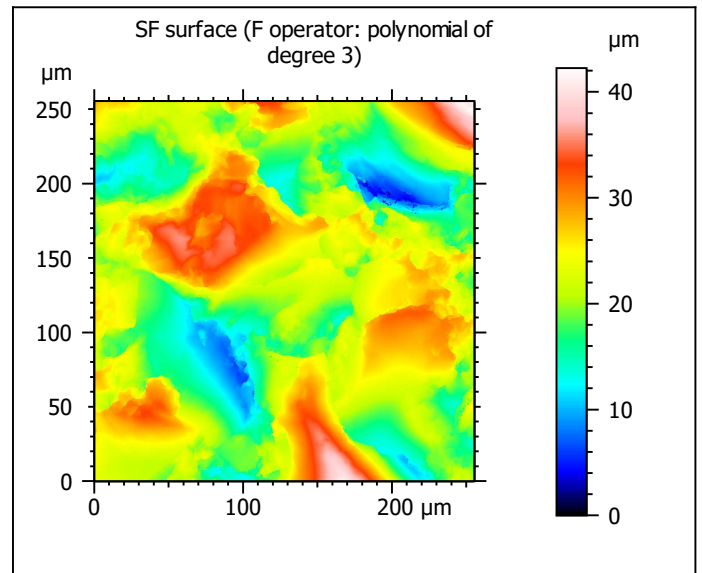
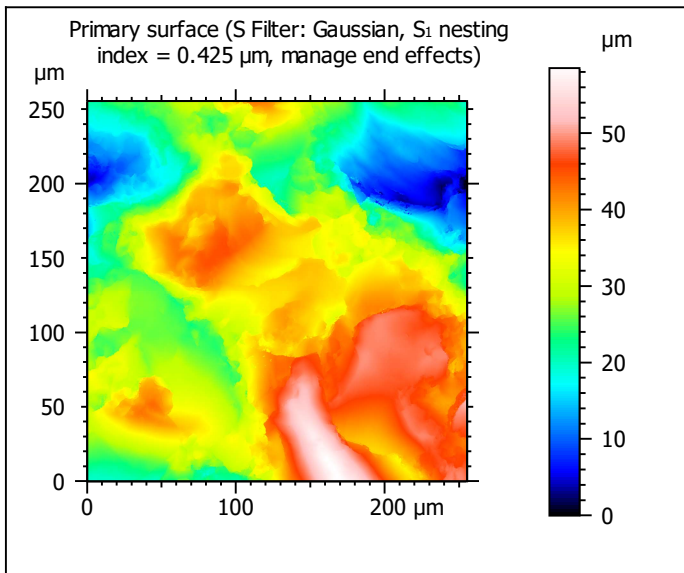
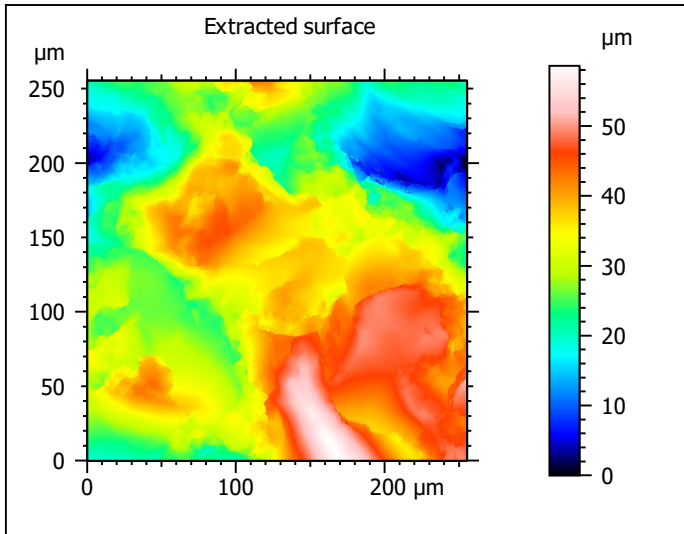


ISO 25178		
Height Parameters		
Sq	3.80	μm
Ssk	-0.0243	
Sku	2.96	
Sp	13.0	μm
Sv	16.2	μm
Sz	29.2	μm
Sa	3.01	μm
Functional Parameters		
Smr	0.0446	%
Smc	4.99	μm
Sxp	7.52	μm
Spatial Parameters		
Sal	20.2	μm
Str	0.618	
Std	129	°
Hybrid Parameters		
Sdq	2.09	
Sdr	46.3	%
Functional Parameters (V...)		
Vm	0.168	μm ³ /μm ²
Vv	5.16	μm ³ /μm ²
Vmp	0.168	μm ³ /μm ²
Vmc	3.40	μm ³ /μm ²
Vvc	4.71	μm ³ /μm ²
Vvv	0.445	μm ³ /μm ²
Functional Parameters (S...)		
Sk	5.34	μm
Spk	2.24	μm
Svk	2.97	μm
Smr1	11.0	%
Smr2	87.0	%
Spq	*****	
Svq	*****	
Smq	*****	

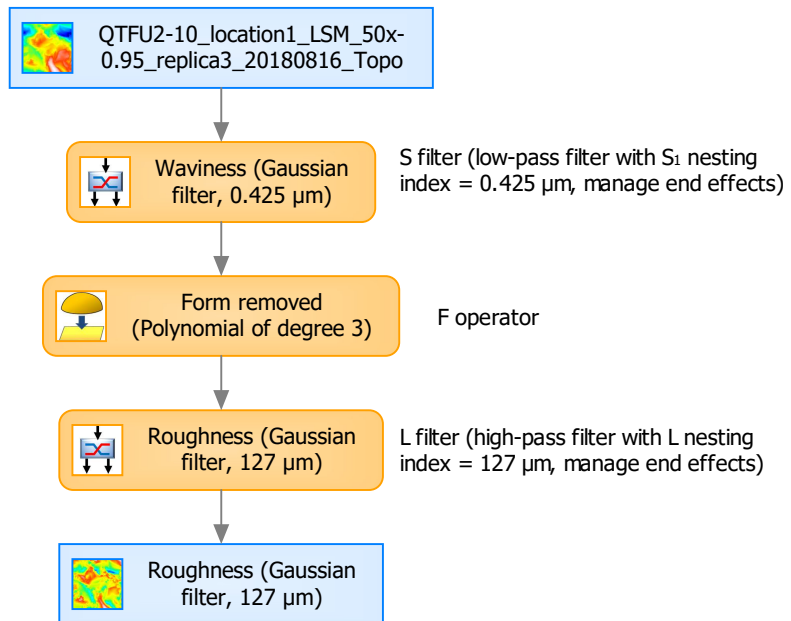


Quartzite QTFU2-10
50x objective, NA = 0.75 or 0.95

Identity card - QTFU2-10_location1_LSM_5...			
Name:	QTFU2-10_location1_LSM_50x-0.95_replica3_20...		
Created on:	8/16/2018 11:55:19 AM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	58.6	μm	
Size:	65532	digits	
Spacing:	0.895	nm	
NMP ratio:	0.00 % (0 Pts)		

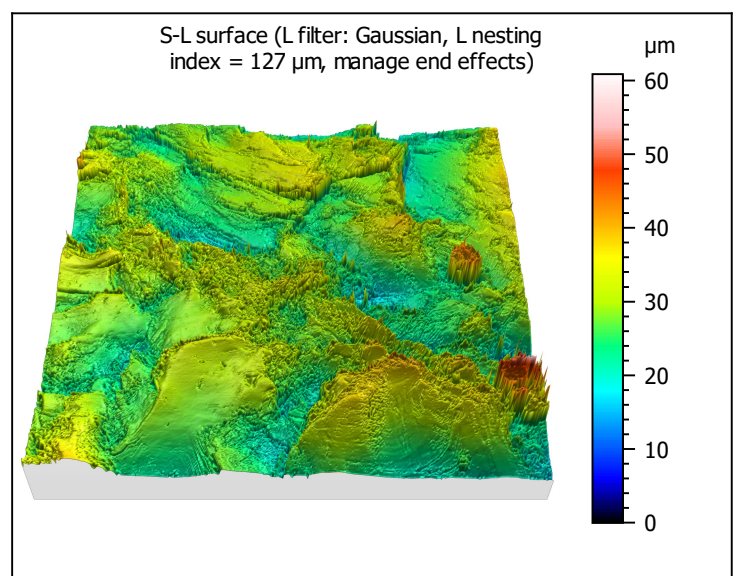
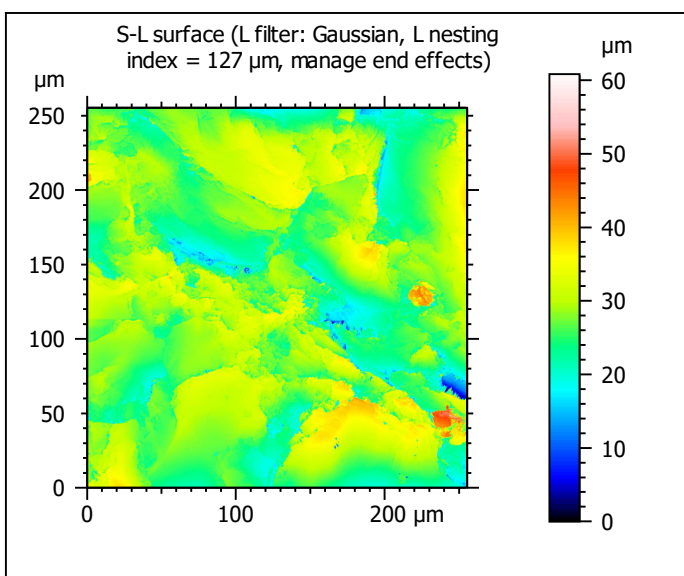
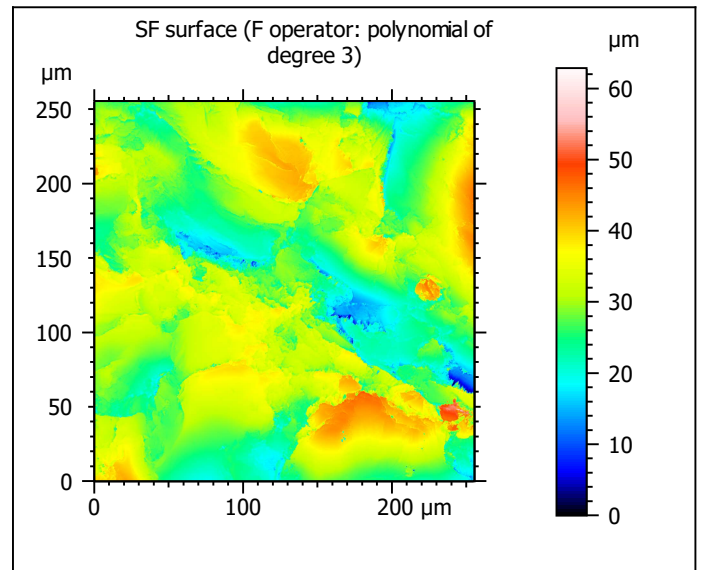
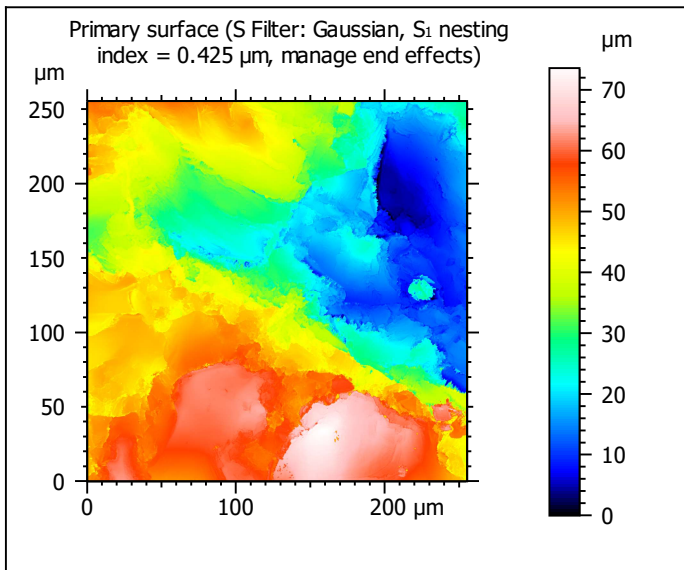
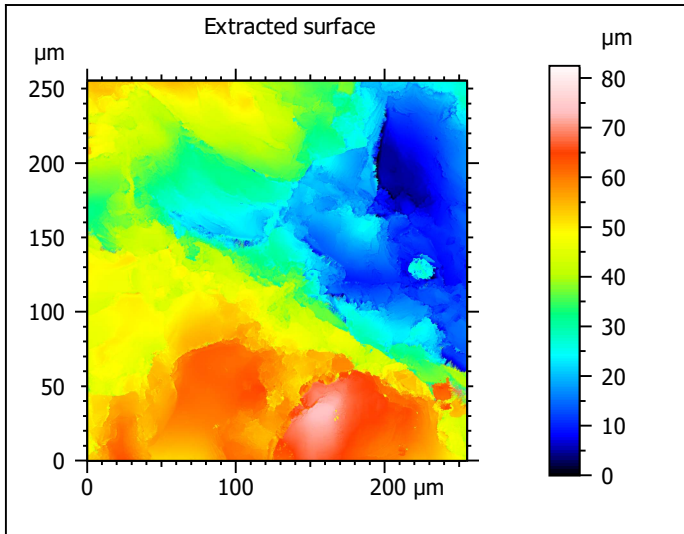


ISO 25178		
Height Parameters		
Sq	3.90	μm
Ssk	-0.0236	
Sku	2.97	
Sp	13.0	μm
Sv	16.5	μm
Sz	29.5	μm
Sa	3.09	μm
Functional Parameters		
Smr	0.0595	%
Smc	5.13	μm
Sxp	7.69	μm
Spatial Parameters		
Sal	20.2	μm
Str	0.622	
Std	129	°
Hybrid Parameters		
Sdq	2.13	
Sdr	47.8	%
Functional Parameters (V...)		
Vm	0.171	μm ³ /μm ²
Vv	5.30	μm ³ /μm ²
Vmp	0.171	μm ³ /μm ²
Vmc	3.48	μm ³ /μm ²
Vvc	4.84	μm ³ /μm ²
Vvv	0.458	μm ³ /μm ²
Functional Parameters (S...)		
Sk	5.58	μm
Spk	2.26	μm
Svk	2.99	μm
Smr1	10.7	%
Smr2	87.4	%
Spq	*****	
Svq	*****	
Smq	*****	

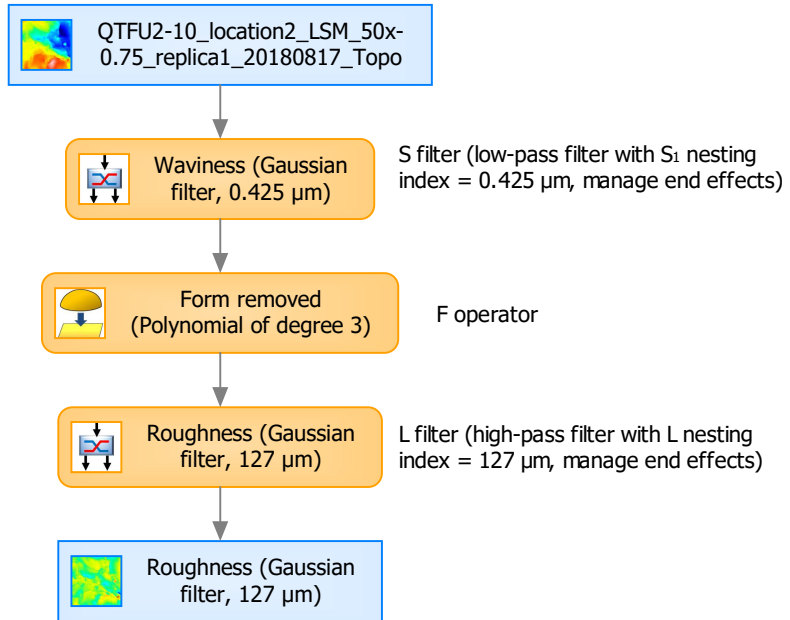


Quartzite QTFU2-10
50x objective, NA = 0.75 or 0.95

Identity card - QTFU2-10_location2_LSM_5...			
Name:	QTFU2-10_location2_LSM_50x-0.75_replica1_20...		
Created on:	8/17/2018 10:48:46 AM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	82.5	μm	
Size:	65532	digits	
Spacing:	1.26	nm	
NMP ratio:	0.00 % (0 Pts)		

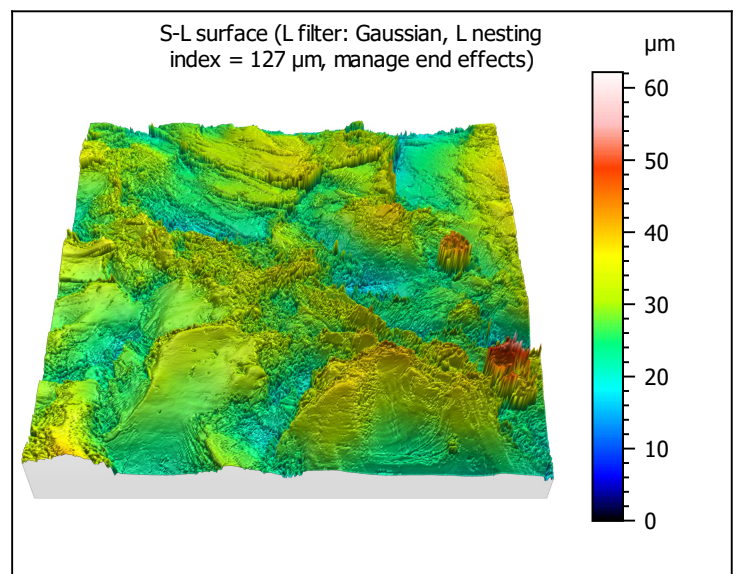
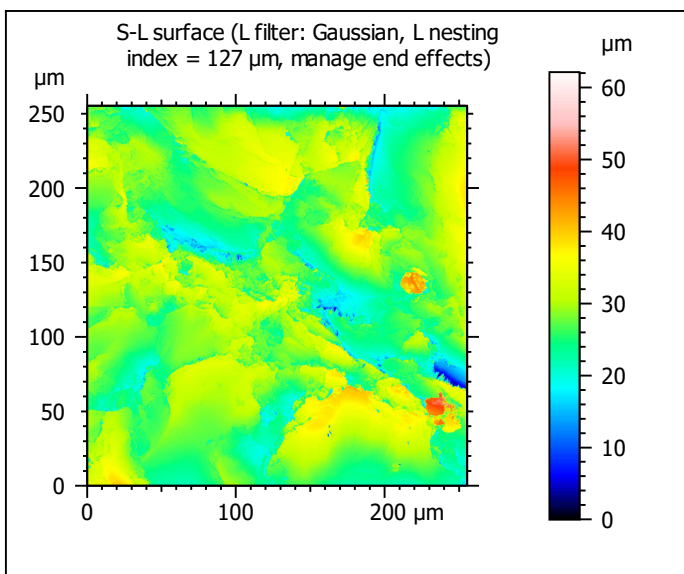
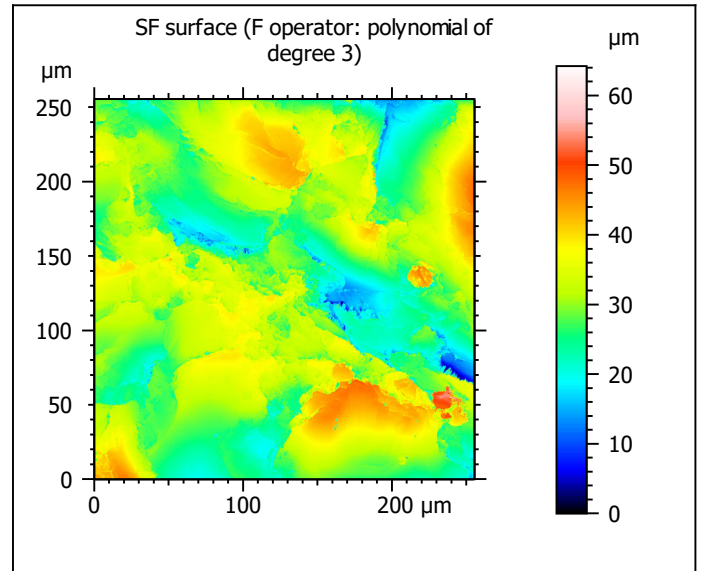
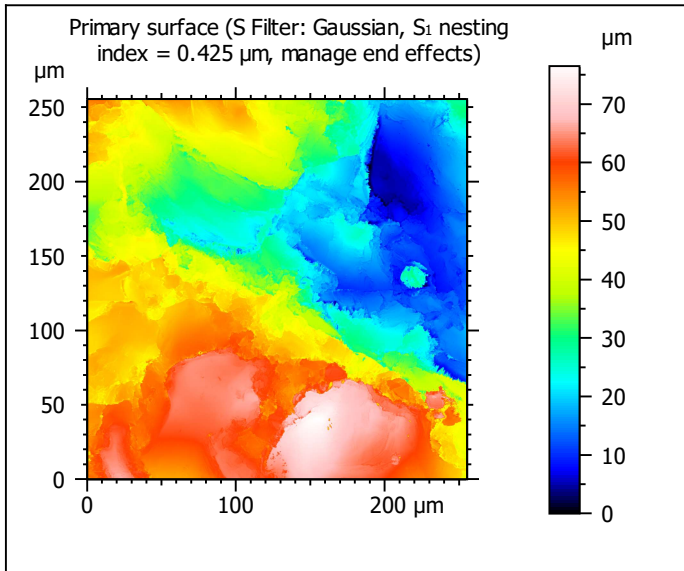
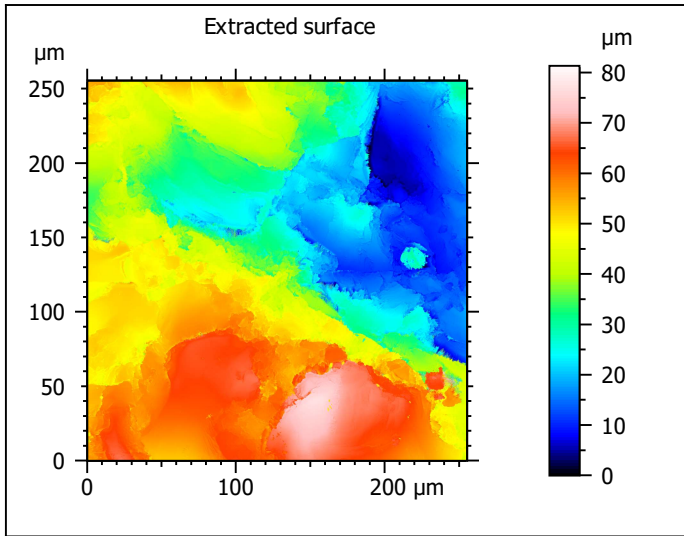


ISO 25178	
Height Parameters	
Sq	4.55 μm
Ssk	-0.0139
Sku	4.29
Sp	33.3 μm
Sv	27.6 μm
Sz	60.9 μm
Sa	3.50 μm
Functional Parameters	
Smr	7.78e-05 %
Smc	5.70 μm
Sxp	9.05 μm
Spatial Parameters	
Sal	19.4 μm
Str	0.734
Std	150 $^\circ$
Hybrid Parameters	
Sdq	6.63
Sdr	190 %
Functional Parameters (Vol...)	
Vm	0.231 $\mu\text{m}^3/\mu\text{m}^2$
Vv	5.94 $\mu\text{m}^3/\mu\text{m}^2$
Vmp	0.231 $\mu\text{m}^3/\mu\text{m}^2$
Vmc	3.91 $\mu\text{m}^3/\mu\text{m}^2$
Vvc	5.39 $\mu\text{m}^3/\mu\text{m}^2$
Vvv	0.548 $\mu\text{m}^3/\mu\text{m}^2$
Functional Parameters (Str...)	
Sk	6.35 μm
Spk	4.27 μm
Svk	4.30 μm
Smr1	11.9 %
Smr2	86.6 %
Spq	*****
Svq	*****
Smq	*****

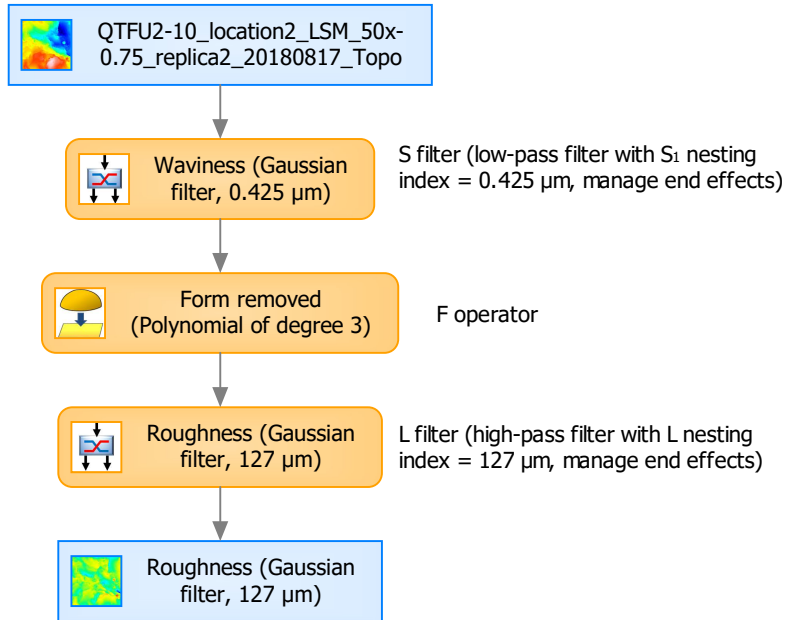


Quartzite QTFU2-10
50x objective, NA = 0.75 or 0.95

Identity card - QTFU2-10_location2_LSM_5...			
Name:	QTFU2-10_location2_LSM_50x-0.75_replica2_20...		
Created on:	8/17/2018 11:37:03 AM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	81.3	μm	
Size:	65532	digits	
Spacing:	1.24	nm	
NMP ratio:	0.00 % (0 Pts)		

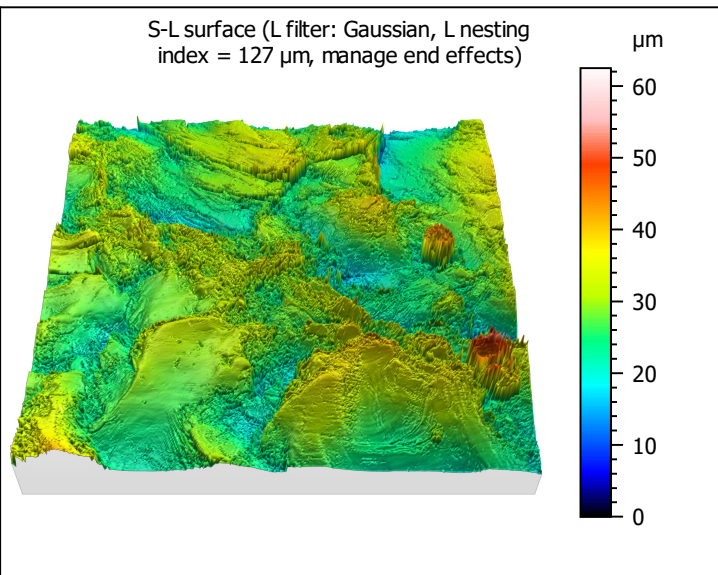
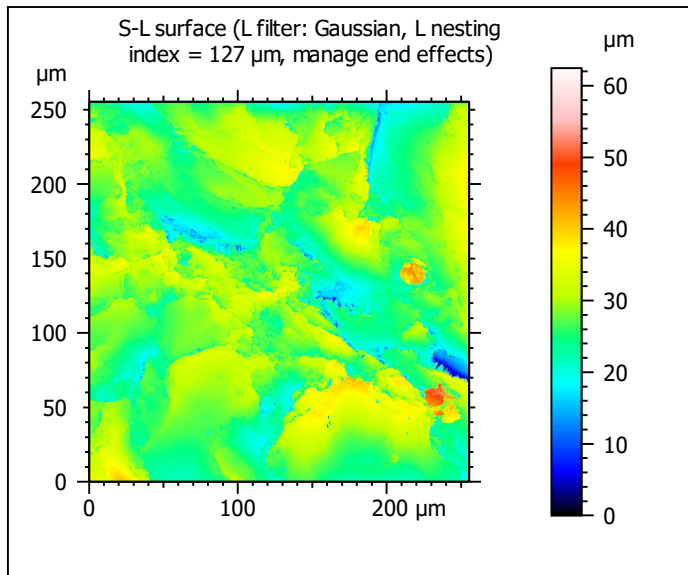
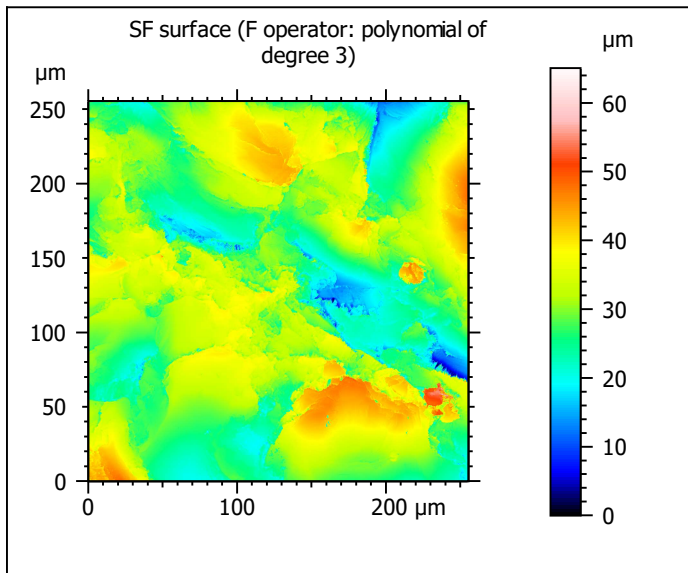
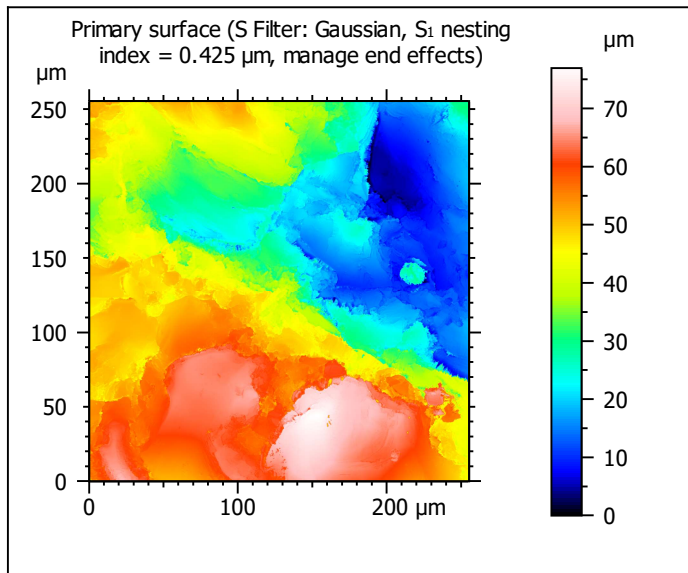
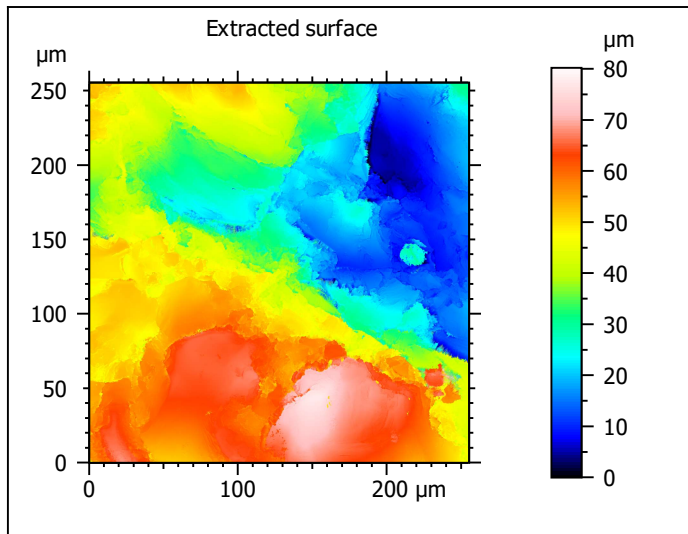


ISO 25178	
Height Parameters	
Sq	4.68 μm
Ssk	-0.00798
Sku	4.35
Sp	34.2 μm
Sv	27.9 μm
Sz	62.2 μm
Sa	3.60 μm
Functional Parameters	
Smr	5.65e-05 %
Smc	5.81 μm
Sxp	9.24 μm
Spatial Parameters	
Sal	19.8 μm
Str	0.778
Std	150 $^\circ$
Hybrid Parameters	
Sdq	6.76
Sdr	196 %
Functional Parameters (Vol...)	
Vm	0.244 $\mu\text{m}^3/\mu\text{m}^2$
Vv	6.05 $\mu\text{m}^3/\mu\text{m}^2$
Vmp	0.244 $\mu\text{m}^3/\mu\text{m}^2$
Vmc	4.01 $\mu\text{m}^3/\mu\text{m}^2$
Vvc	5.50 $\mu\text{m}^3/\mu\text{m}^2$
Vvv	0.550 $\mu\text{m}^3/\mu\text{m}^2$
Functional Parameters (Str...)	
Sk	6.56 μm
Spk	4.47 μm
Svk	4.48 μm
Smr1	11.4 %
Smr2	86.9 %
Spq	*****
Svq	*****
Smq	*****

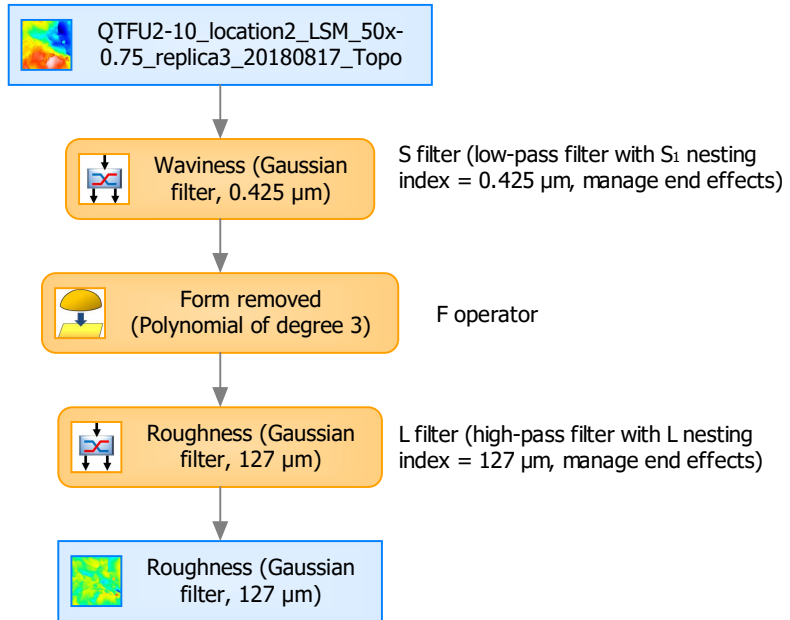


Quartzite QTFU2-10
50x objective, NA = 0.75 or 0.95

Identity card - QTFU2-10_location2_LSM_5...			
Name:	QTFU2-10_location2_LSM_50x-0.75_replica3_20...		
Created on:	8/17/2018 12:27:24 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	80.2	μm	
Size:	65532	digits	
Spacing:	1.22	nm	
NMP ratio:	0.00 % (0 Pts)		

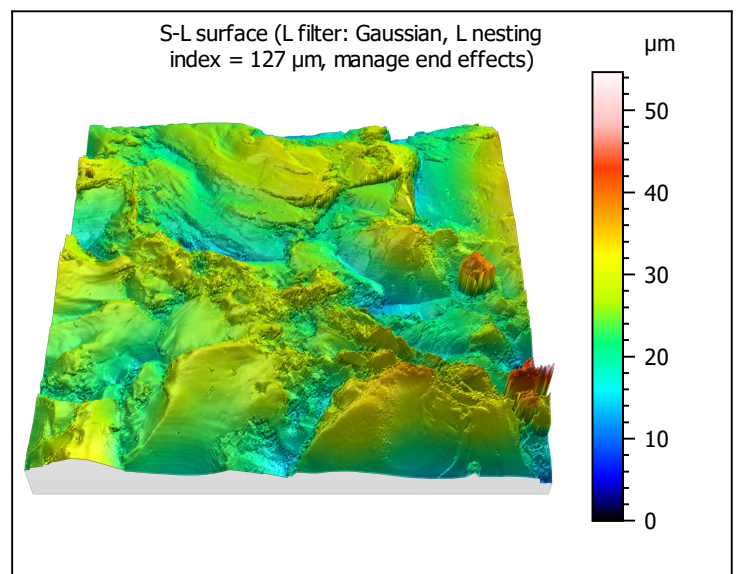
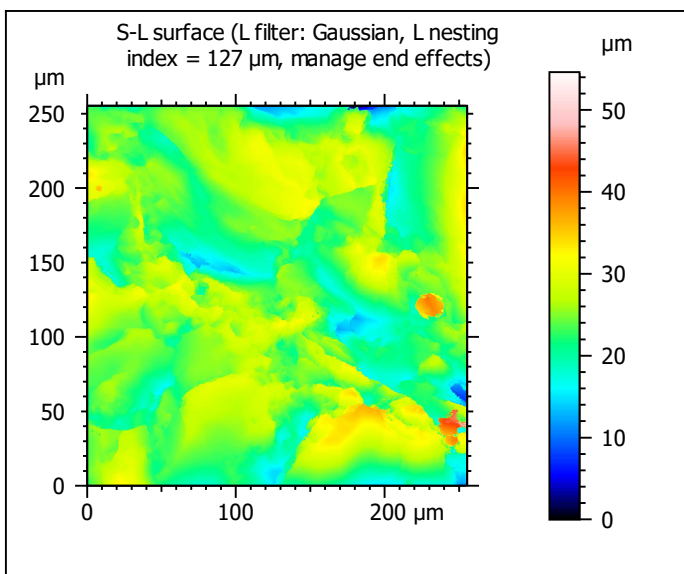
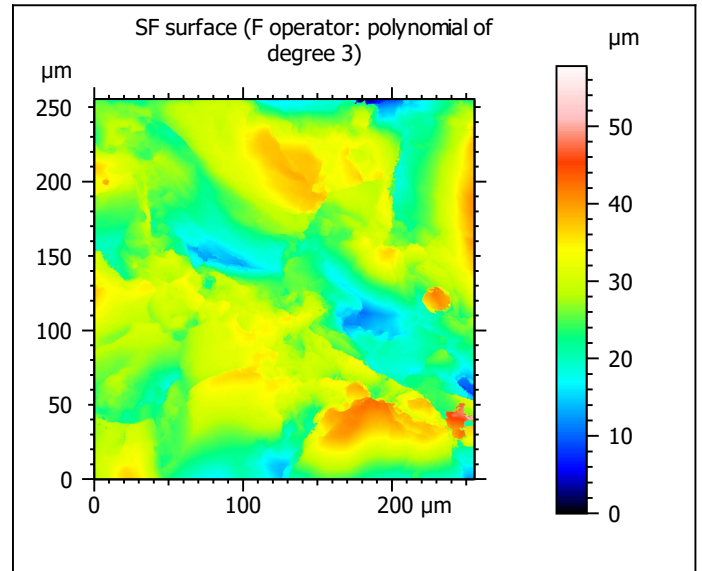
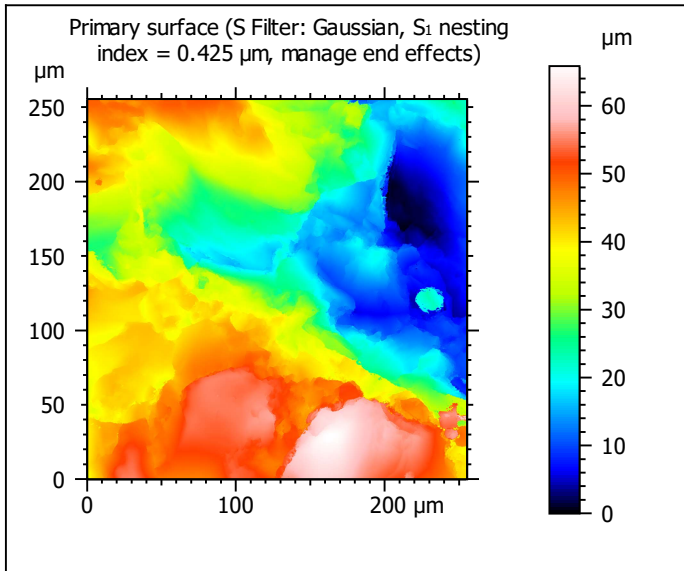
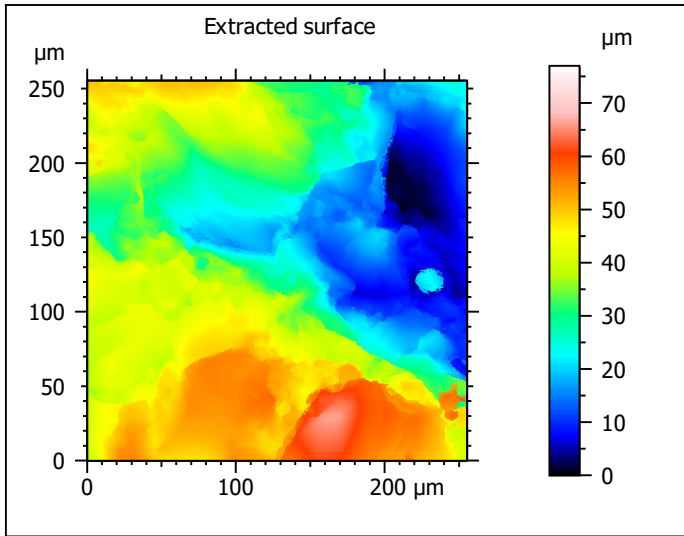


ISO 25178	
Height Parameters	
Sq	4.70 μm
Ssk	-0.00636
Sku	4.41
Sp	34.9 μm
Sv	27.6 μm
Sz	62.5 μm
Sa	3.62 μm
Functional Parameters	
Smr	4.44e-05 %
Smc	5.82 μm
Sxp	9.29 μm
Spatial Parameters	
Sal	19.7 μm
Str	0.763
Std	150 $^{\circ}$
Hybrid Parameters	
Sdq	6.75
Sdr	196 %
Functional Parameters (Vol...)	
Vm	0.251 $\mu\text{m}^3/\mu\text{m}^2$
Vv	6.07 $\mu\text{m}^3/\mu\text{m}^2$
Vmp	0.251 $\mu\text{m}^3/\mu\text{m}^2$
Vmc	3.97 $\mu\text{m}^3/\mu\text{m}^2$
Vvc	5.51 $\mu\text{m}^3/\mu\text{m}^2$
Vvv	0.563 $\mu\text{m}^3/\mu\text{m}^2$
Functional Parameters (Str...)	
Sk	6.44 μm
Spk	4.56 μm
Svk	4.53 μm
Smr1	11.8 %
Smr2	86.5 %
Spq	*****
Svq	*****
Smq	*****

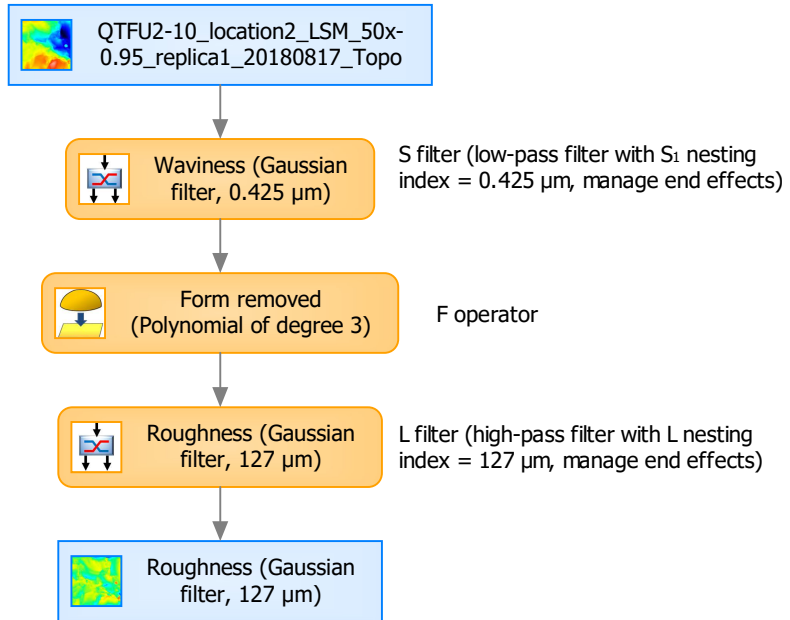


Quartzite QTFU2-10
50x objective, NA = 0.75 or 0.95

Identity card - QTFU2-10_location2_LSM_5...			
Name:	QTFU2-10_location2_LSM_50x-0.95_replica1_20...		
Created on:	8/17/2018 10:22:20 AM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	77.0	μm	
Size:	65532	digits	
Spacing:	1.18	nm	
NMP ratio:	0.00 % (0 Pts)		

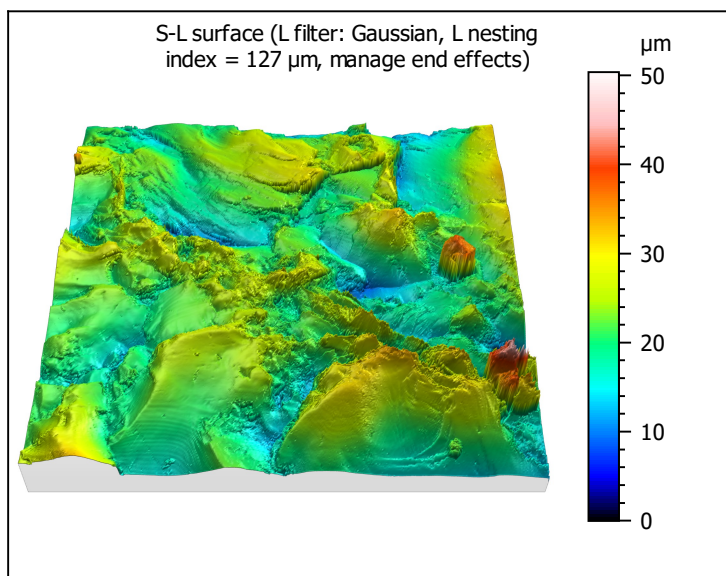
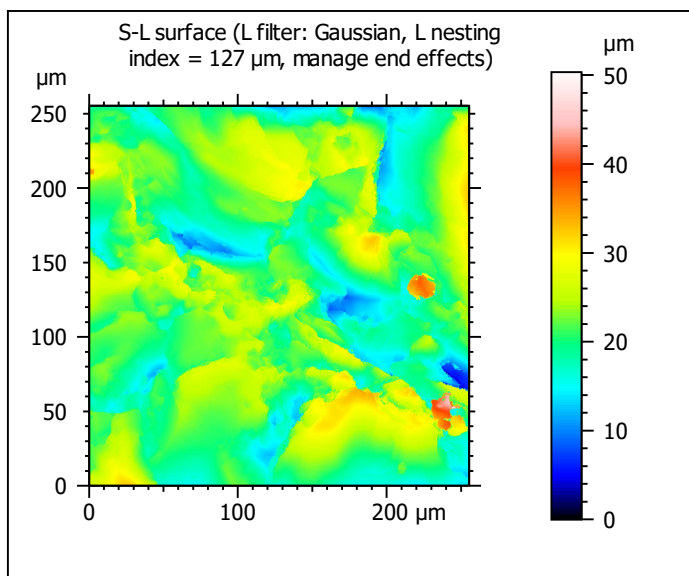
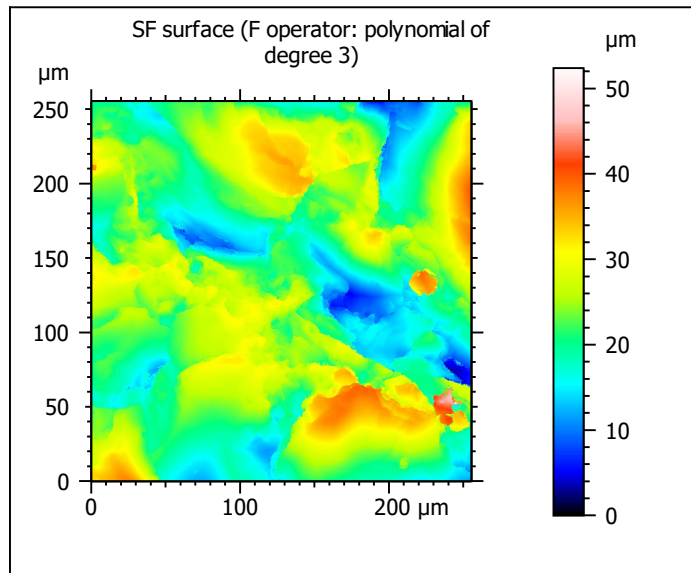
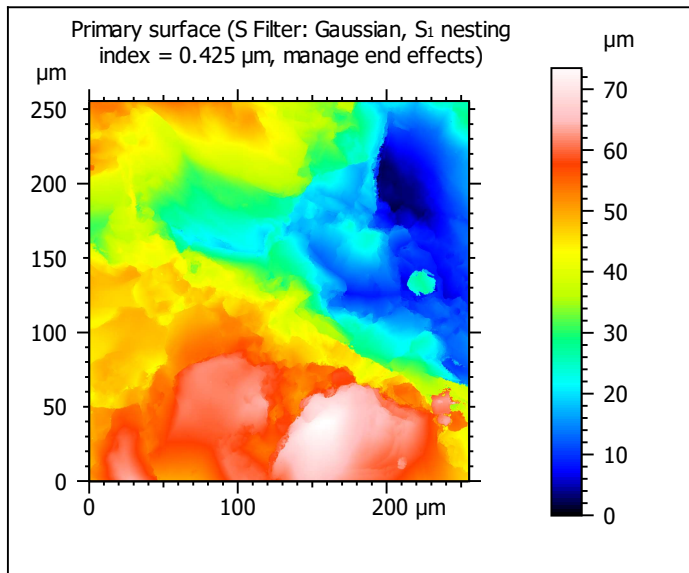
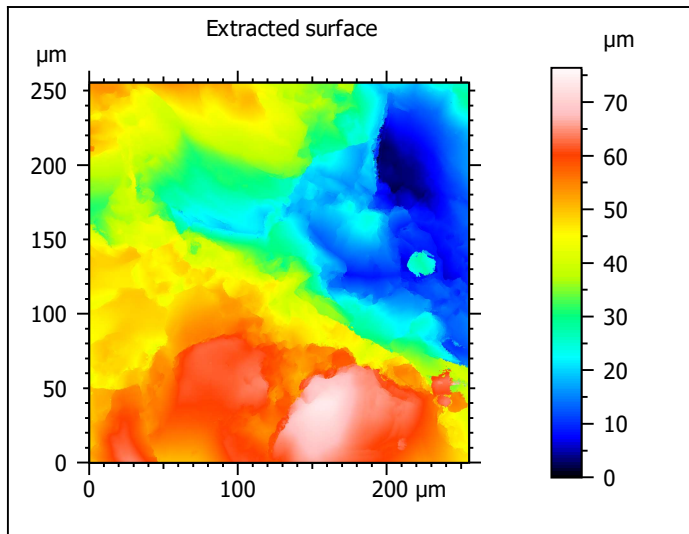


ISO 25178	
Height Parameters	
Sq	4.17 μm
Ssk	0.0218
Sku	4.33
Sp	30.2 μm
Sv	24.5 μm
Sz	54.7 μm
Sa	3.19 μm
Functional Parameters	
Smr	2.55e-05 %
Smc	5.16 μm
Sxp	8.43 μm
Spatial Parameters	
Sal	19.1 μm
Str	0.634
Std	147 $^\circ$
Hybrid Parameters	
Sdq	3.39
Sdr	63.6 %
Functional Parameters (Vol...)	
Vm	0.214 $\mu\text{m}^3/\mu\text{m}^2$
Vv	5.38 $\mu\text{m}^3/\mu\text{m}^2$
Vmp	0.214 $\mu\text{m}^3/\mu\text{m}^2$
Vmc	3.56 $\mu\text{m}^3/\mu\text{m}^2$
Vvc	4.86 $\mu\text{m}^3/\mu\text{m}^2$
Vvv	0.516 $\mu\text{m}^3/\mu\text{m}^2$
Functional Parameters (Str...)	
Sk	5.44 μm
Spk	3.84 μm
Svk	3.74 μm
Smr1	13.1 %
Smr2	86.1 %
Spq	*****
Svq	*****
Smq	*****

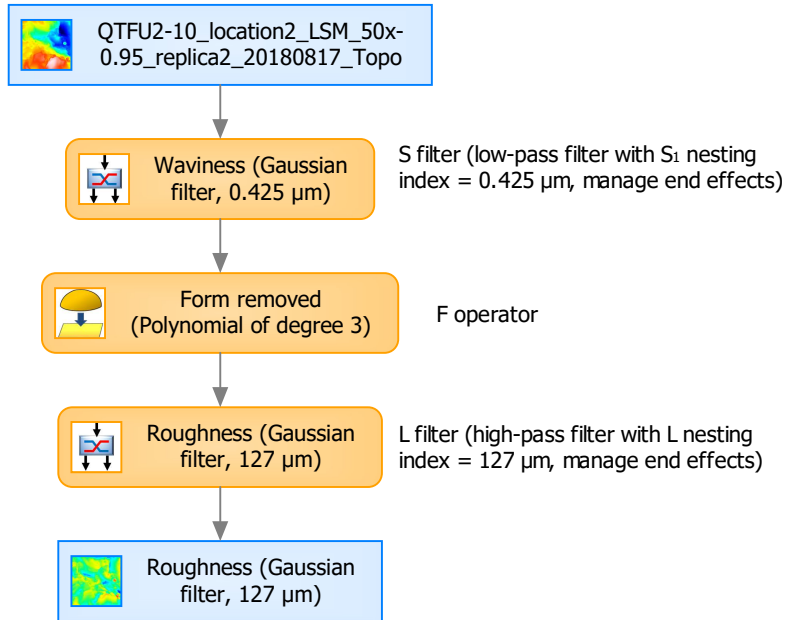


Quartzite QTFU2-10
50x objective, NA = 0.75 or 0.95

Identity card - QTFU2-10_location2_LSM_5...			
Name:	QTFU2-10_location2_LSM_50x-0.95_replica2_20...		
Created on:	8/17/2018 11:12:17 AM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	76.4	μm	
Size:	65531	digits	
Spacing:	1.17	nm	
NMP ratio:	0.00 % (0 Pts)		

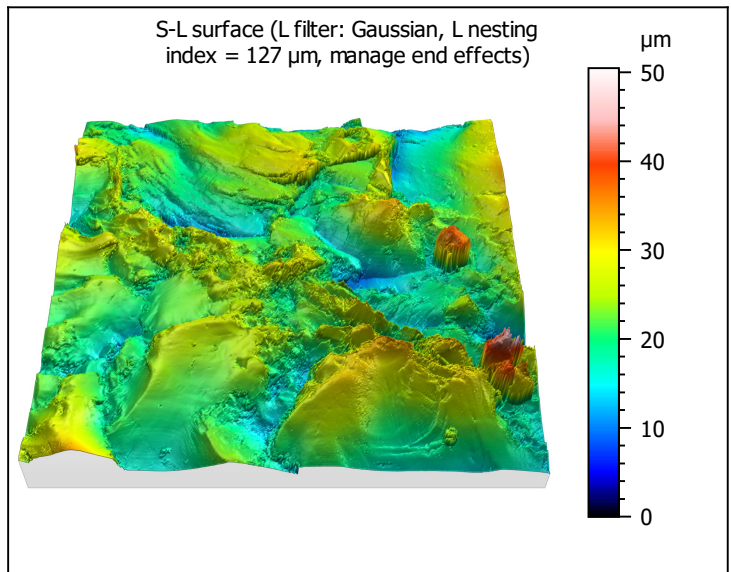
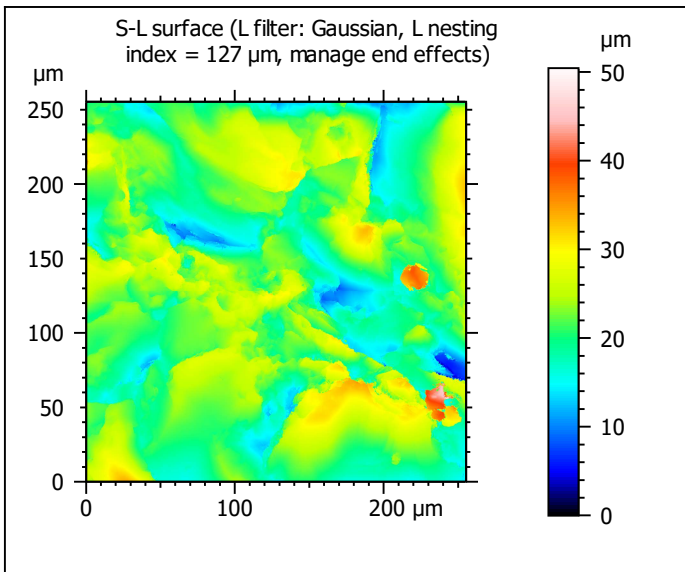
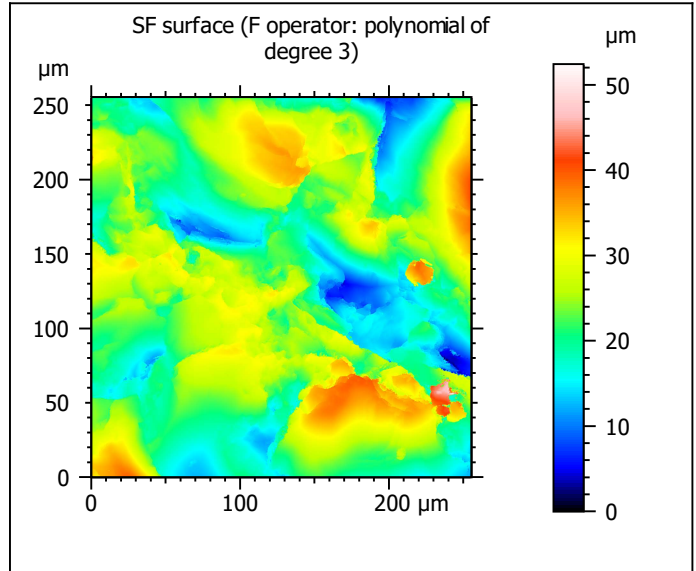
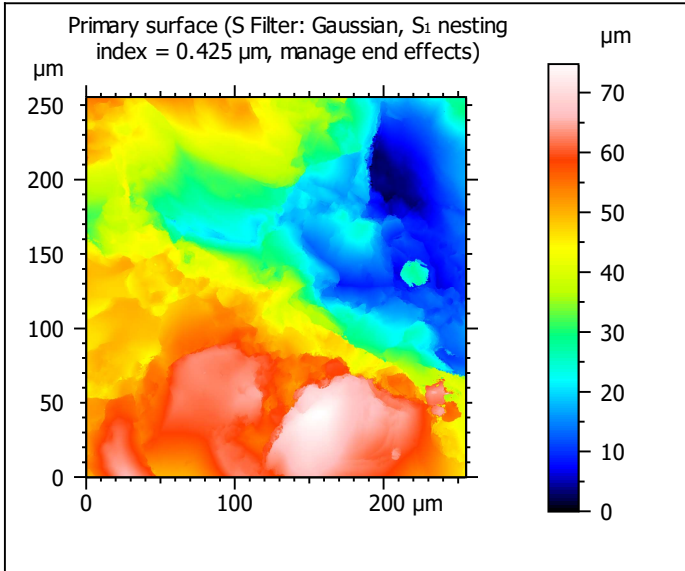
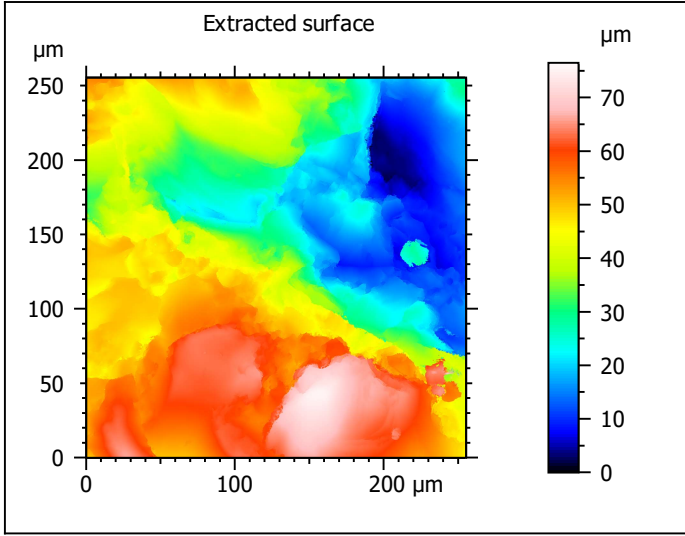


ISO 25178	
Height Parameters	
Sq	4.45 μm
Ssk	0.203
Sku	3.97
Sp	28.8 μm
Sv	21.6 μm
Sz	50.4 μm
Sa	3.44 μm
Functional Parameters	
Smr	0.000605 %
Smc	5.64 μm
Sxp	8.38 μm
Spatial Parameters	
Sal	20.4 μm
Str	0.785
Std	147 $^\circ$
Hybrid Parameters	
Sdq	3.68
Sdr	70.1 %
Functional Parameters (Vol...)	
Vm	0.239 $\mu\text{m}^3/\mu\text{m}^2$
Vv	5.88 $\mu\text{m}^3/\mu\text{m}^2$
Vmp	0.239 $\mu\text{m}^3/\mu\text{m}^2$
Vmc	3.89 $\mu\text{m}^3/\mu\text{m}^2$
Vvc	5.38 $\mu\text{m}^3/\mu\text{m}^2$
Vvv	0.496 $\mu\text{m}^3/\mu\text{m}^2$
Functional Parameters (Str...)	
Sk	6.23 μm
Spk	4.13 μm
Svk	3.65 μm
Smr1	11.9 %
Smr2	87.7 %
Spq	*****
Svq	*****
Smq	*****

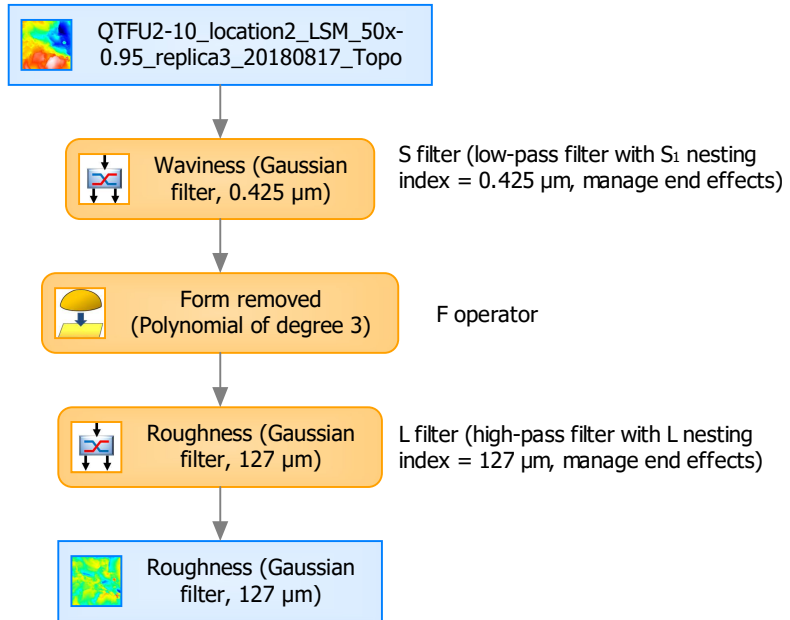


Quartzite QTFU2-10
50x objective, NA = 0.75 or 0.95

Identity card - QTFU2-10_location2_LSM_5...			
Name:	QTFU2-10_location2_LSM_50x-0.95_replica3_20...		
Created on:	8/17/2018 12:00:25 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	76.5	μm	
Size:	65532	digits	
Spacing:	1.17	nm	
NMP ratio:	0.00 % (0 Pts)		

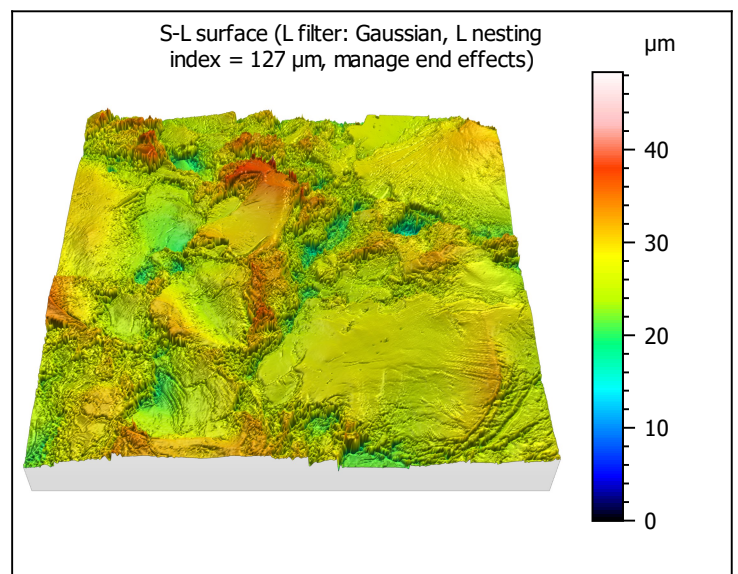
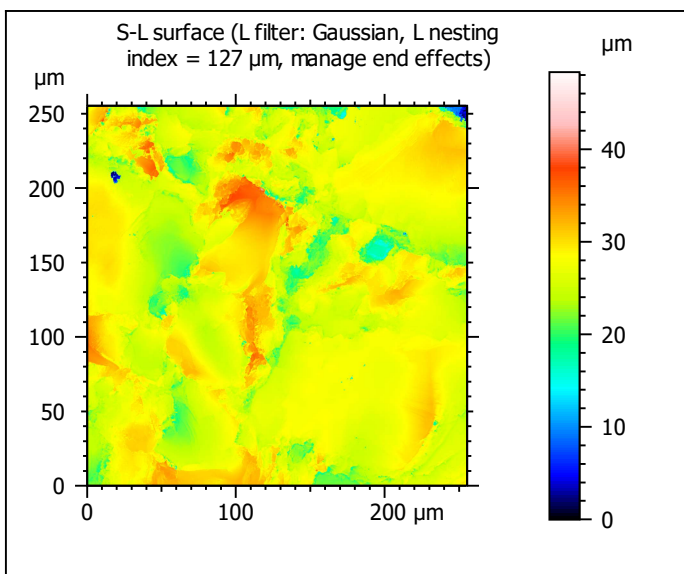
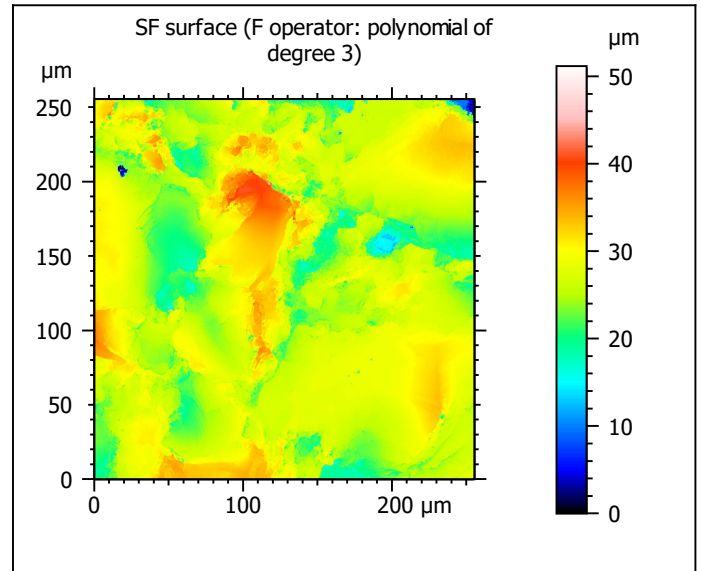
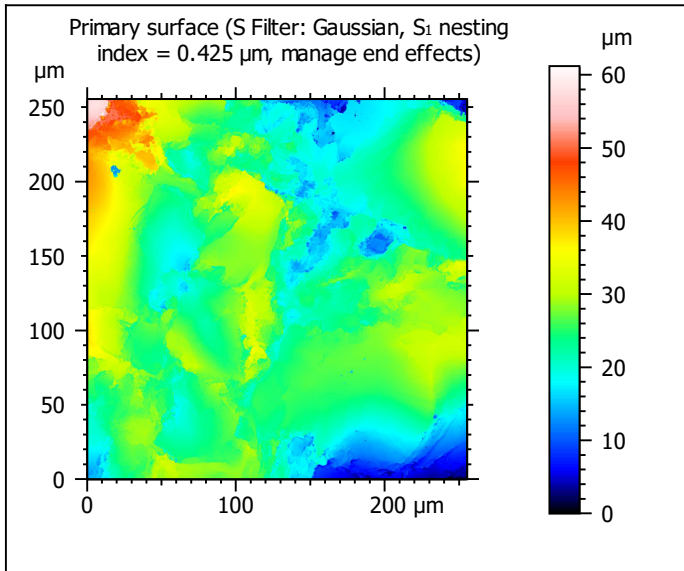
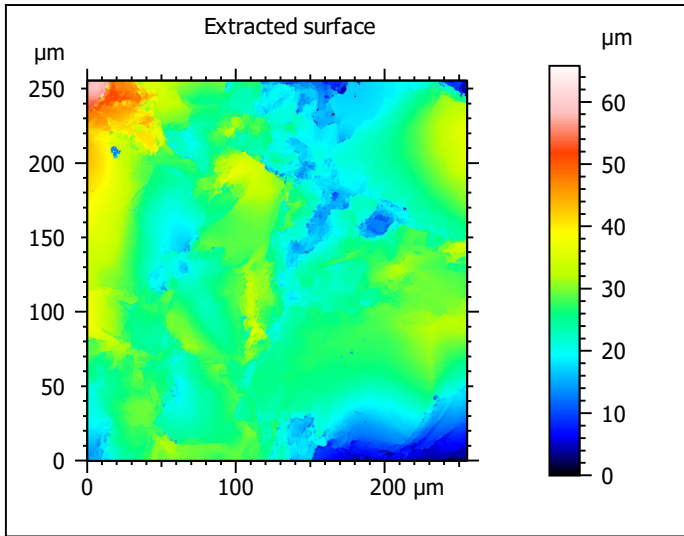


ISO 25178	
Height Parameters	
Sq	4.51 μm
Ssk	0.205
Sku	4.01
Sp	28.6 μm
Sv	21.9 μm
Sz	50.5 μm
Sa	3.49 μm
Functional Parameters	
Smr	0.000474 %
Smc	5.68 μm
Sxp	8.57 μm
Spatial Parameters	
Sal	20.5 μm
Str	0.811
Std	147 $^\circ$
Hybrid Parameters	
Sdq	3.73
Sdr	70.8 %
Functional Parameters (Vol...)	
Vm	0.247 $\mu\text{m}^3/\mu\text{m}^2$
Vv	5.93 $\mu\text{m}^3/\mu\text{m}^2$
Vmp	0.247 $\mu\text{m}^3/\mu\text{m}^2$
Vmc	3.92 $\mu\text{m}^3/\mu\text{m}^2$
Vvc	5.43 $\mu\text{m}^3/\mu\text{m}^2$
Vvv	0.501 $\mu\text{m}^3/\mu\text{m}^2$
Functional Parameters (Str...)	
Sk	6.23 μm
Spk	4.28 μm
Svk	3.74 μm
Smr1	11.8 %
Smr2	87.4 %
Spq	*****
Svq	*****
Smq	*****

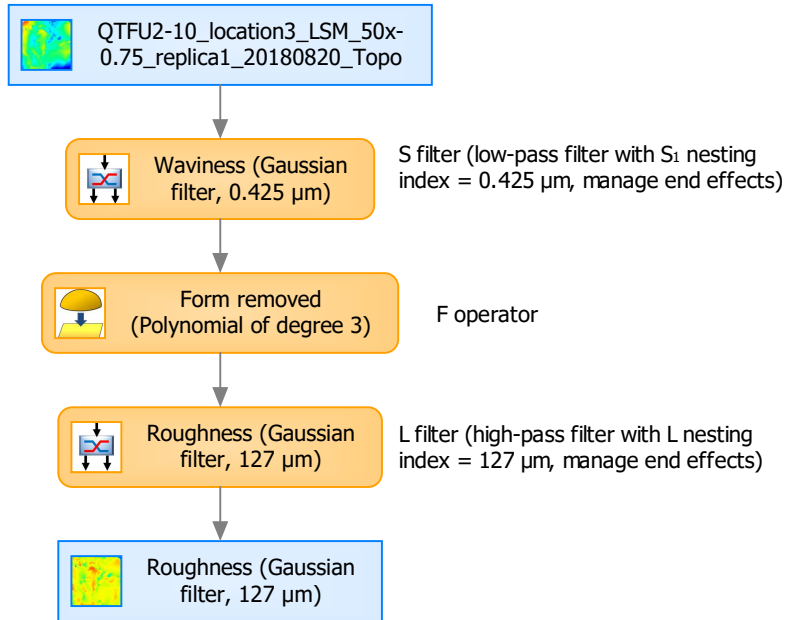


Quartzite QTFU2-10
50x objective, NA = 0.75 or 0.95

Identity card - QTFU2-10_location3_LSM_5...			
Name:	QTFU2-10_location3_LSM_50x-0.75_replica1_20...		
Created on:	8/20/2018 1:59:54 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	65.8	μm	
Size:	65532	digits	
Spacing:	1.00	nm	
NMP ratio:	0.00 % (0 Pts)		

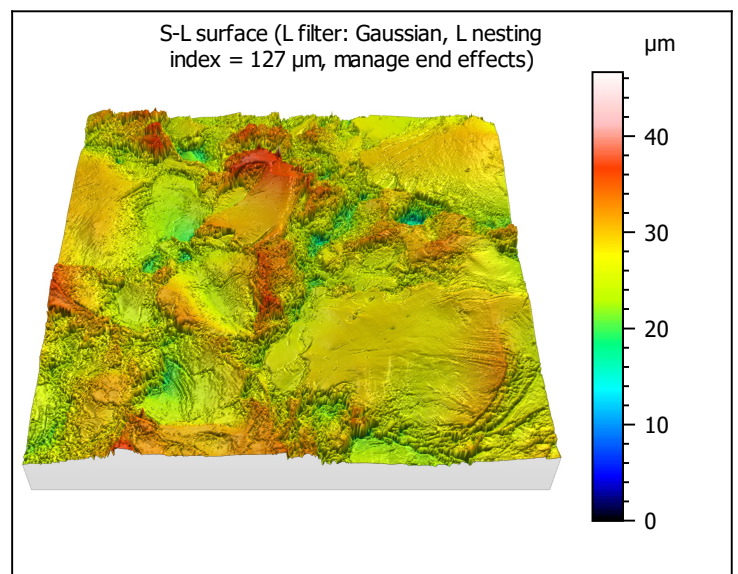
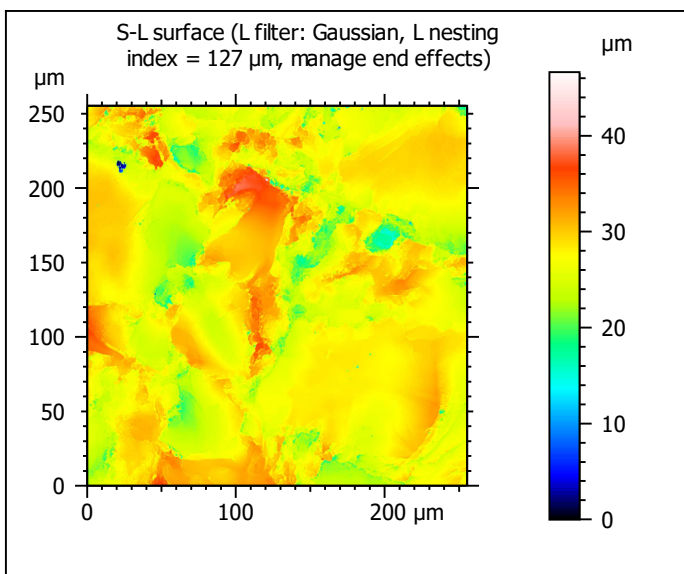
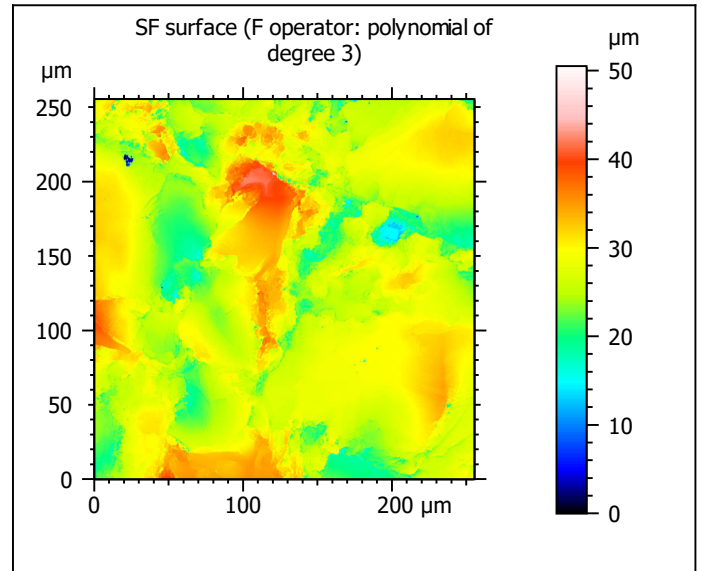
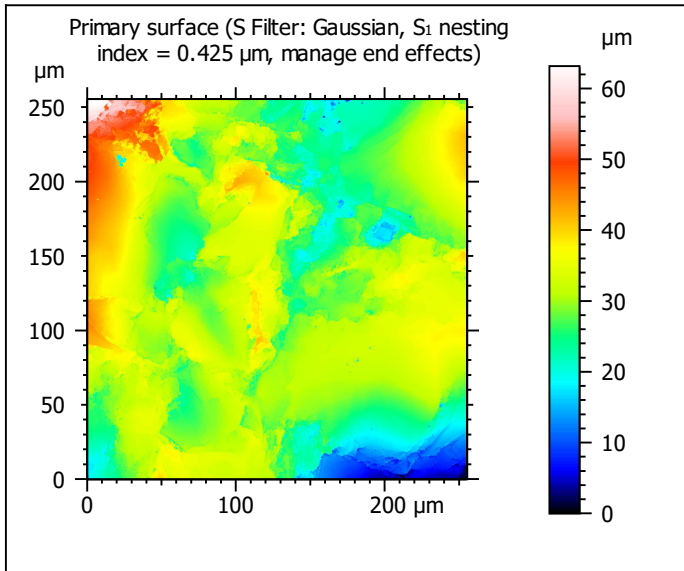
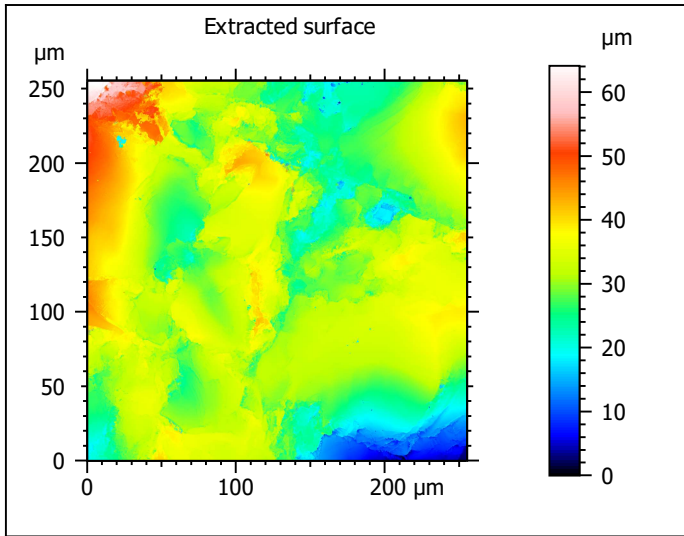


ISO 25178	
Height Parameters	
Sq	3.08 μm
Ssk	-0.811
Sku	8.11
Sp	21.4 μm
Sv	27.0 μm
Sz	48.3 μm
Sa	2.27 μm
Functional Parameters	
Smr	2.22e-05 %
Smc	3.49 μm
Sxp	6.45 μm
Spatial Parameters	
Sal	15.6 μm
Str	0.757
Std	69.0 $^{\circ}$
Hybrid Parameters	
Sdq	4.06
Sdr	122 %
Functional Parameters (Vol...)	
Vm	0.160 $\mu\text{m}^3/\mu\text{m}^2$
Vv	3.65 $\mu\text{m}^3/\mu\text{m}^2$
Vmp	0.160 $\mu\text{m}^3/\mu\text{m}^2$
Vmc	2.44 $\mu\text{m}^3/\mu\text{m}^2$
Vvc	3.22 $\mu\text{m}^3/\mu\text{m}^2$
Vvv	0.436 $\mu\text{m}^3/\mu\text{m}^2$
Functional Parameters (Str...)	
Sk	4.06 μm
Spk	2.80 μm
Svk	3.61 μm
Smr1	13.6 %
Smr2	84.2 %
Spq	2.48
Svq	17.3
Smq	99.3

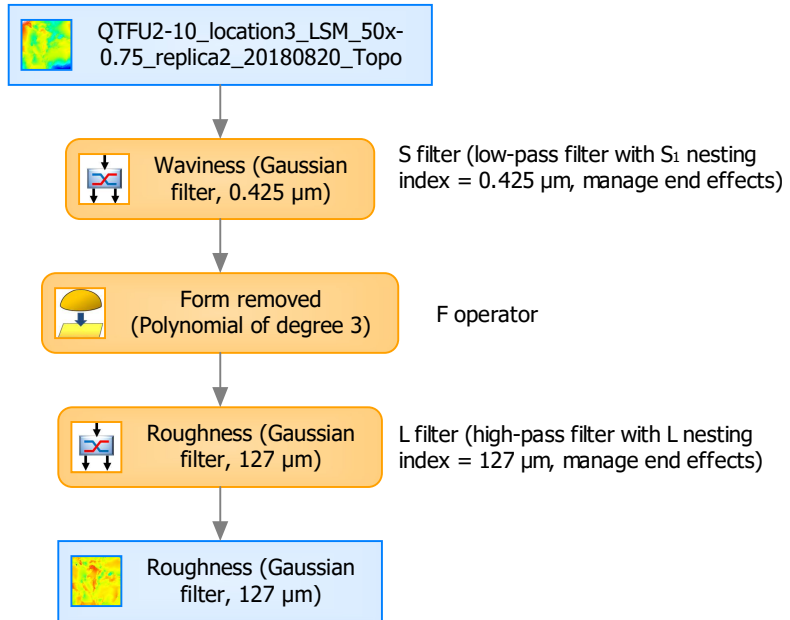


Quartzite QTFU2-10
50x objective, NA = 0.75 or 0.95

Identity card - QTFU2-10_location3_LSM_5...			
Name:	QTFU2-10_location3_LSM_50x-0.75_replica2_20...		
Created on:	8/20/2018 2:44:00 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	64.1	μm	
Size:	65531	digits	
Spacing:	0.978	nm	
NMP ratio:	0.00 % (0 Pts)		

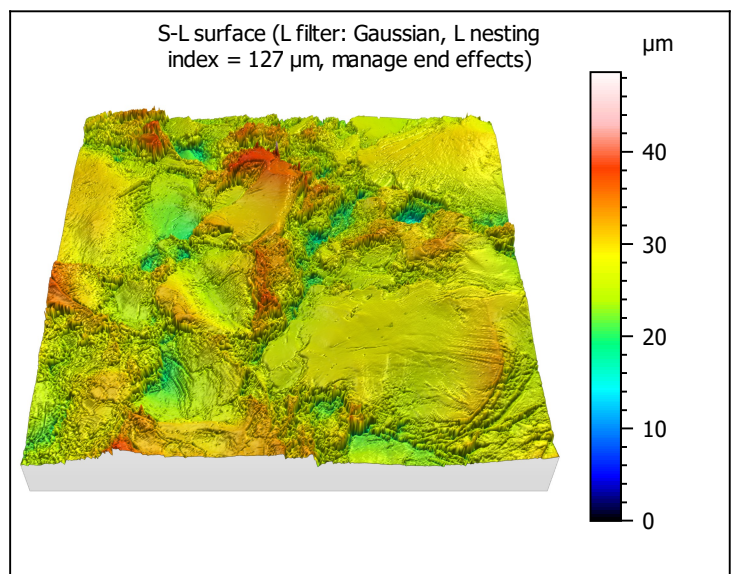
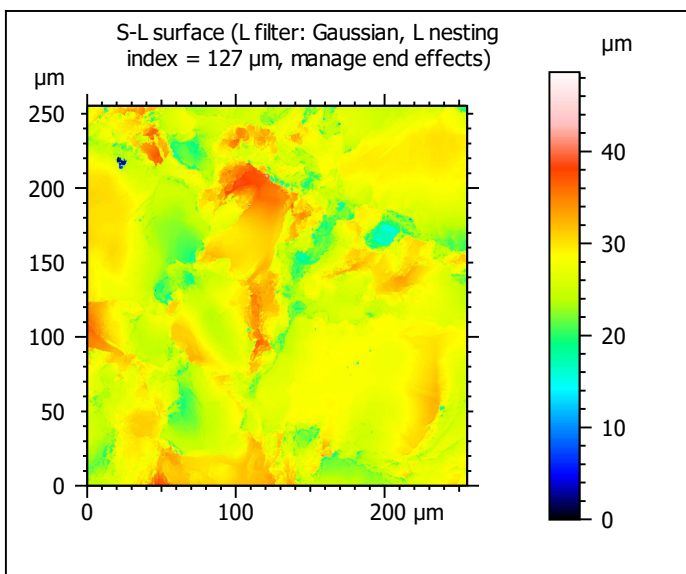
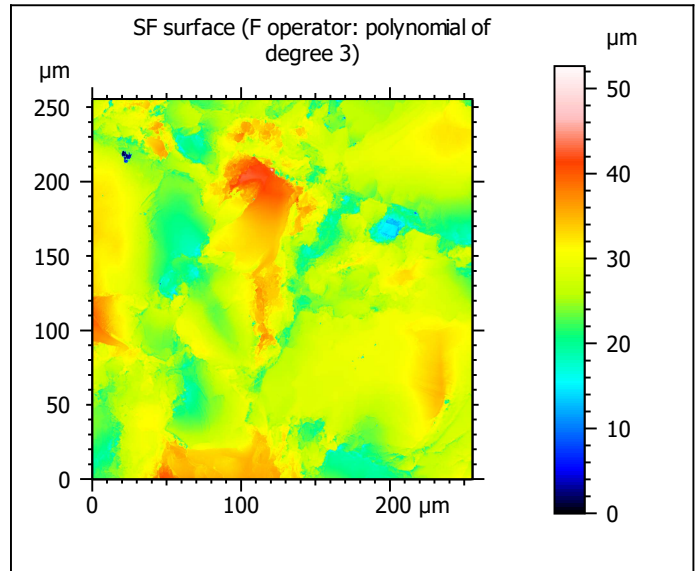
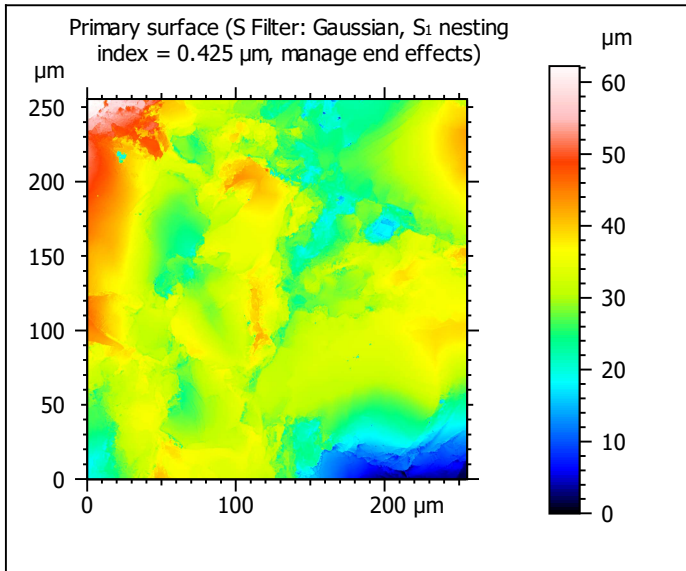
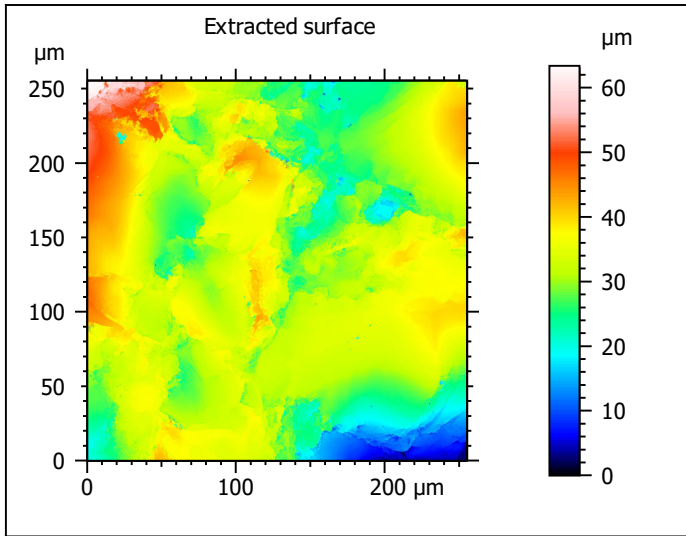


ISO 25178	
Height Parameters	
Sq	3.09 μm
Ssk	-0.321
Sku	5.38
Sp	19.4 μm
Sv	27.3 μm
Sz	46.6 μm
Sa	2.35 μm
Functional Parameters	
Smr	0.000167 %
Smc	3.48 μm
Sxp	6.54 μm
Spatial Parameters	
Sal	16.5 μm
Str	0.704
Std	73.0 $^{\circ}$
Hybrid Parameters	
Sdq	4.14
Sdr	127 %
Functional Parameters (Vol...)	
Vm	0.185 $\mu\text{m}^3/\mu\text{m}^2$
Vv	3.66 $\mu\text{m}^3/\mu\text{m}^2$
Vmp	0.185 $\mu\text{m}^3/\mu\text{m}^2$
Vmc	2.55 $\mu\text{m}^3/\mu\text{m}^2$
Vvc	3.25 $\mu\text{m}^3/\mu\text{m}^2$
Vvv	0.411 $\mu\text{m}^3/\mu\text{m}^2$
Functional Parameters (Str...)	
Sk	4.17 μm
Spk	3.03 μm
Svk	3.43 μm
Smr1	12.5 %
Smr2	84.4 %
Spq	*****
Svq	*****
Smq	*****

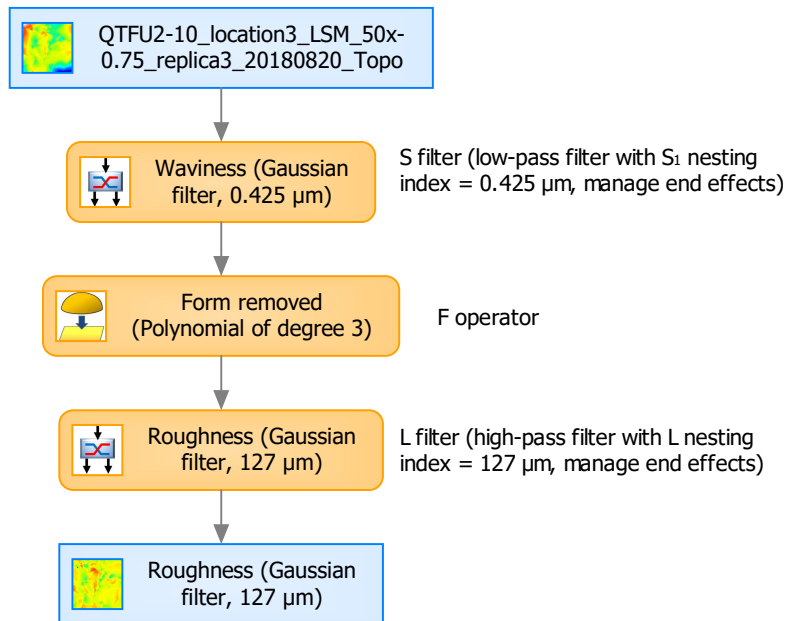


Quartzite QTFU2-10
50x objective, NA = 0.75 or 0.95

Identity card - QTFU2-10_location3_LSM_5...			
Name:	QTFU2-10_location3_LSM_50x-0.75_replica3_20...		
Created on:	8/20/2018 3:26:18 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	63.4	μm	
Size:	65532	digits	
Spacing:	0.967	nm	
NMP ratio:	0.00 % (0 Pts)		

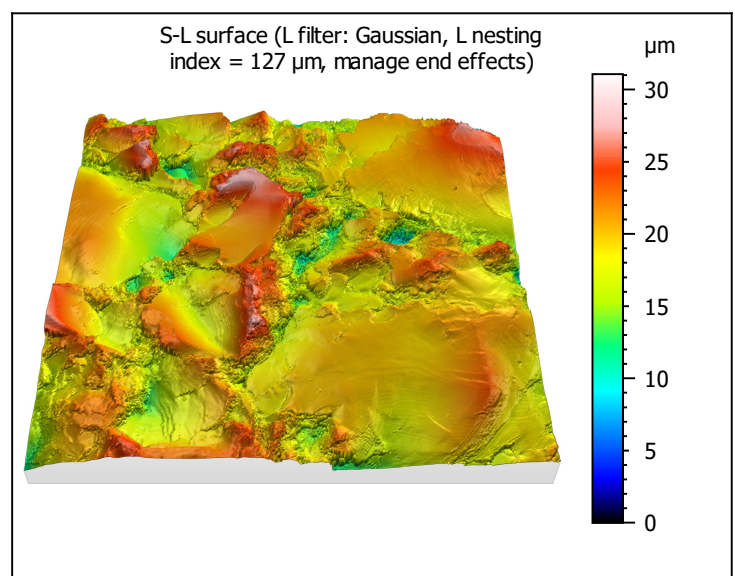
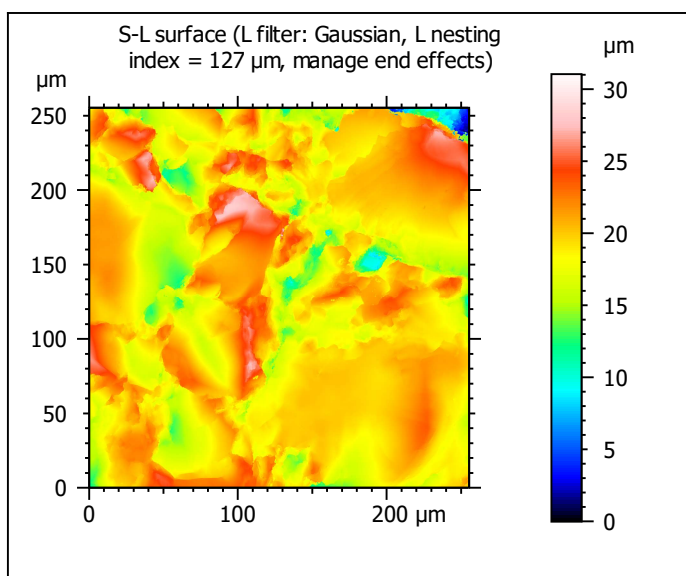
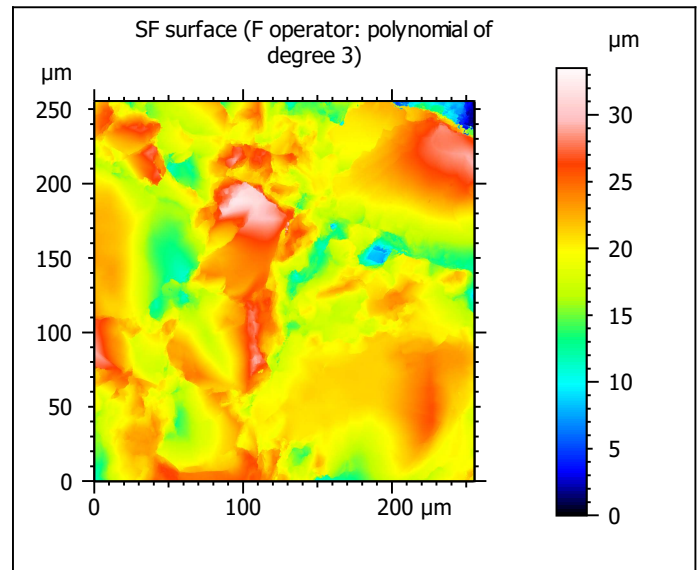
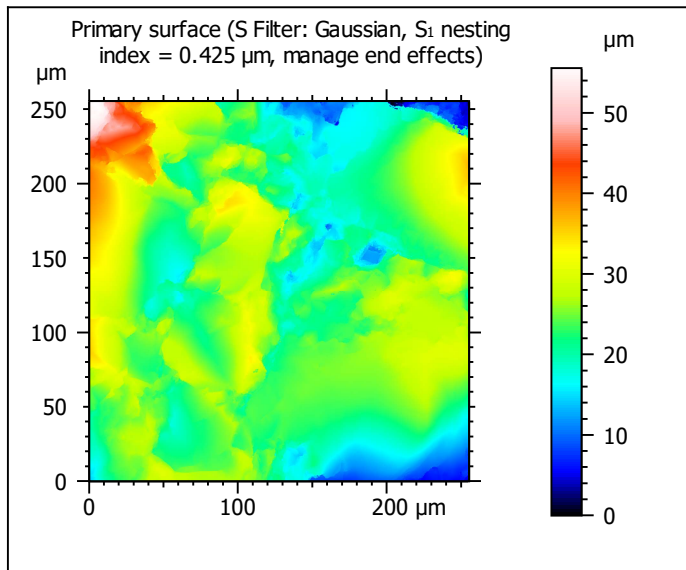
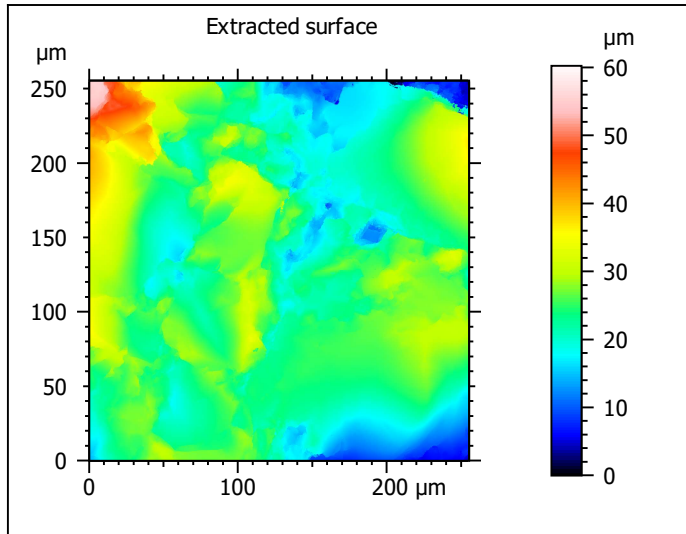


ISO 25178		
Height Parameters		
Sq	3.14	μm
Ssk	-0.283	
Sku	5.17	
Sp	21.3	μm
Sv	27.3	μm
Sz	48.6	μm
Sa	2.39	μm
Functional Parameters		
Smr	0.0001	%
Smc	3.53	μm
Sxp	6.64	μm
Spatial Parameters		
Sal	16.6	μm
Str	0.668	
Std	69.2	°
Hybrid Parameters		
Sdq	4.17	
Sdr	128	%
Functional Parameters (V...		
Vm	0.188	μm ³ /μm ²
Vv	3.72	μm ³ /μm ²
Vmp	0.188	μm ³ /μm ²
Vmc	2.60	μm ³ /μm ²
Vvc	3.30	μm ³ /μm ²
Vvv	0.413	μm ³ /μm ²
Functional Parameters (S...		
Sk	4.20	μm
Spk	3.08	μm
Svk	3.42	μm
Smr1	12.8	%
Smr2	84.0	%
Spq	*****	
Svq	*****	
Smq	*****	

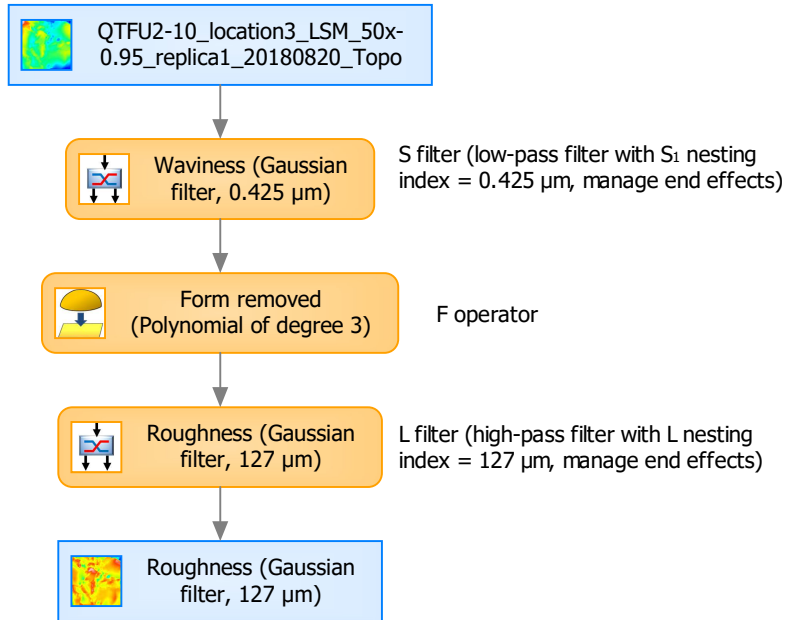


Quartzite QTFU2-10
50x objective, NA = 0.75 or 0.95

Identity card - QTFU2-10_location3_LSM_5...			
Name:	QTFU2-10_location3_LSM_50x-0.95_replica1_20...		
Created on:	8/20/2018 1:39:43 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	60.2	μm	
Size:	65532	digits	
Spacing:	0.919	nm	
NMP ratio:	0.00 % (0 Pts)		

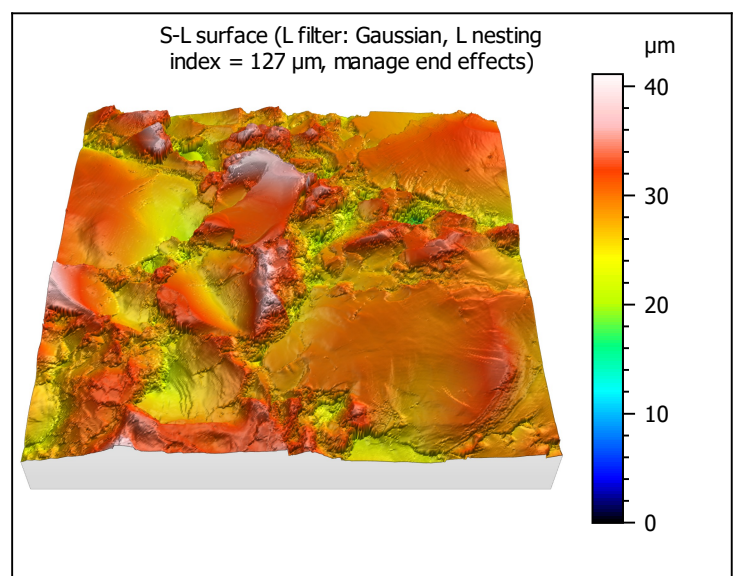
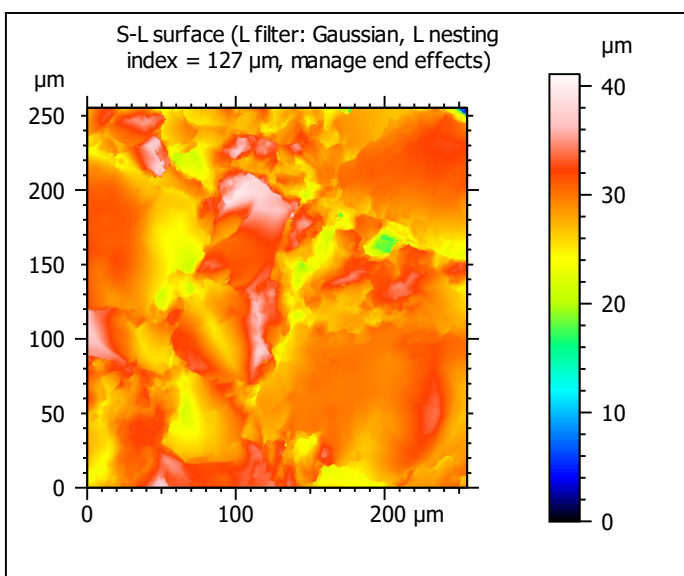
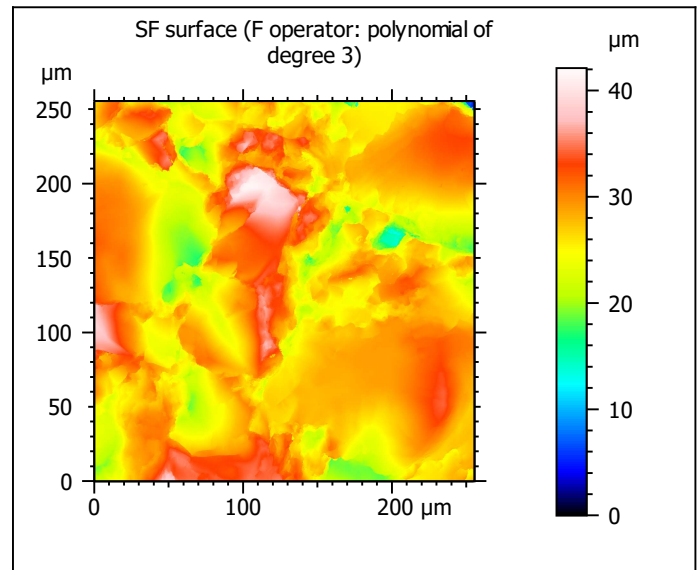
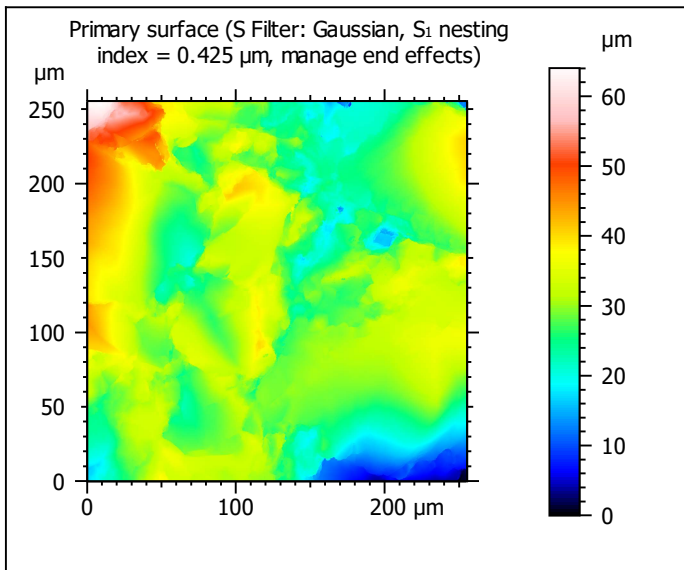
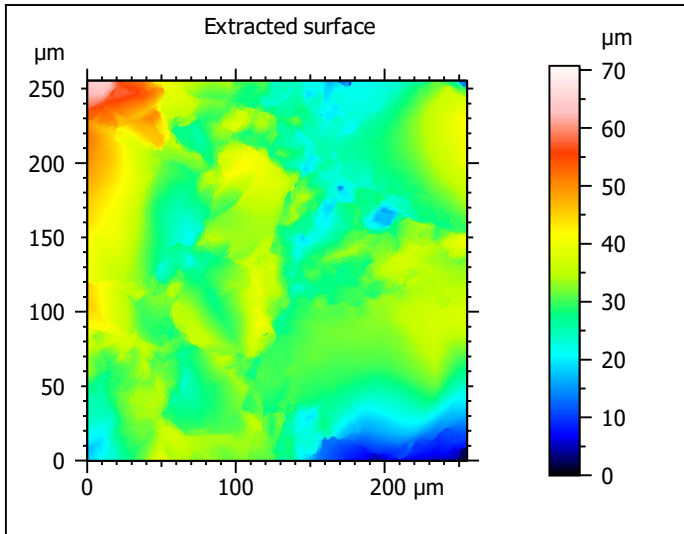


ISO 25178	
Height Parameters	
Sq	2.85 μm
Ssk	-0.656
Sku	6.21
Sp	11.7 μm
Sv	19.3 μm
Sz	31.1 μm
Sa	2.10 μm
Functional Parameters	
Smr	0.000256 %
Smc	3.32 μm
Sxp	5.95 μm
Spatial Parameters	
Sal	15.0 μm
Str	0.740
Std	73.0 $^\circ$
Hybrid Parameters	
Sdq	2.09
Sdr	39.0 %
Functional Parameters (Vol...)	
Vm	0.155 $\mu\text{m}^3/\mu\text{m}^2$
Vv	3.48 $\mu\text{m}^3/\mu\text{m}^2$
Vmp	0.155 $\mu\text{m}^3/\mu\text{m}^2$
Vmc	2.26 $\mu\text{m}^3/\mu\text{m}^2$
Vvc	3.08 $\mu\text{m}^3/\mu\text{m}^2$
Vvv	0.396 $\mu\text{m}^3/\mu\text{m}^2$
Functional Parameters (Str...)	
Sk	3.61 μm
Spk	2.66 μm
Svk	3.08 μm
Smr1	14.9 %
Smr2	84.3 %
Spq	*****
Svq	*****
Smq	*****

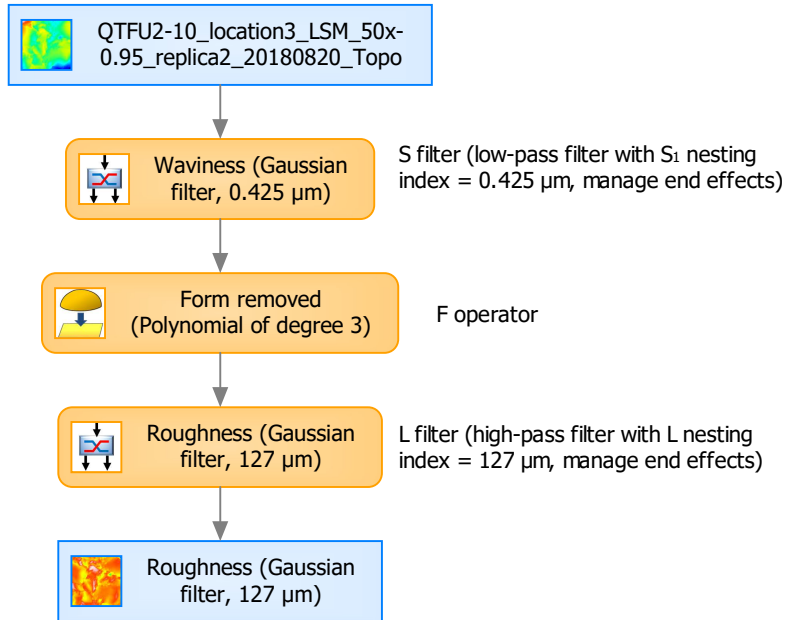


Quartzite QTFU2-10
50x objective, NA = 0.75 or 0.95

Identity card - QTFU2-10_location3_LSM_5...			
Name:	QTFU2-10_location3_LSM_50x-0.95_replica2_20...		
Created on:	8/20/2018 2:23:07 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	70.7	μm	
Size:	65532	digits	
Spacing:	1.08	nm	
NMP ratio:	0.00 % (0 Pts)		

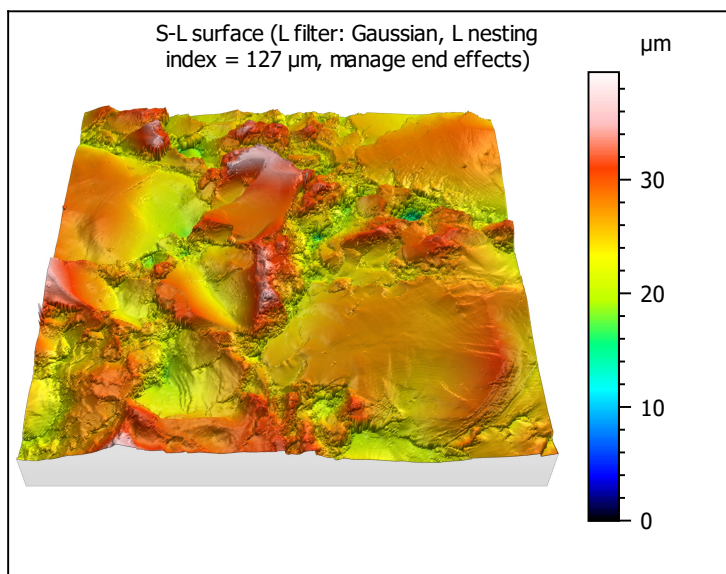
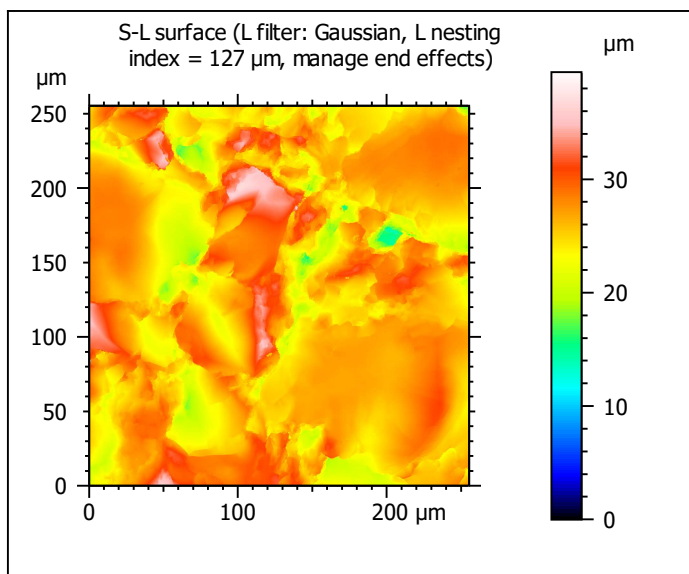
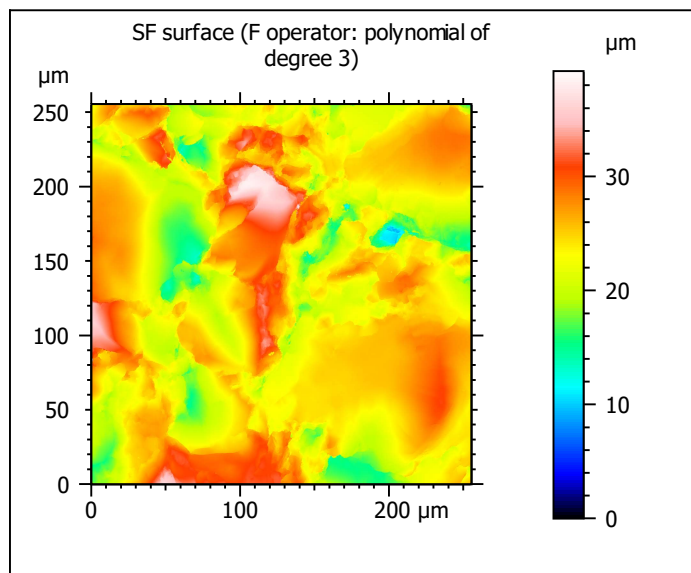
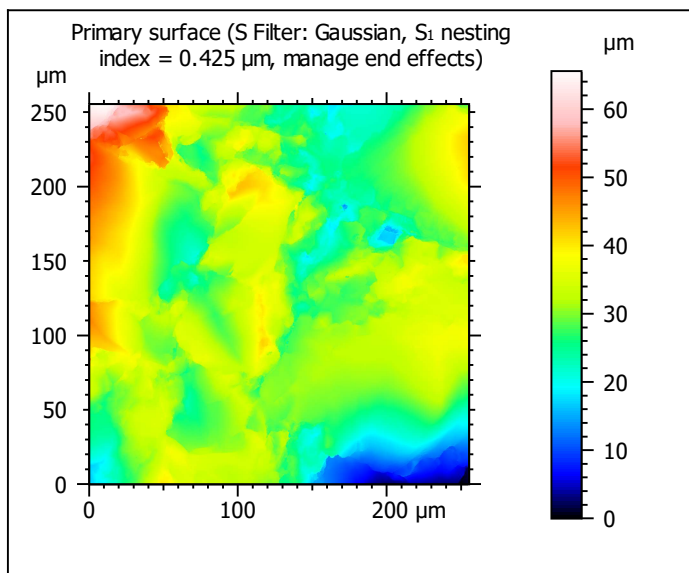
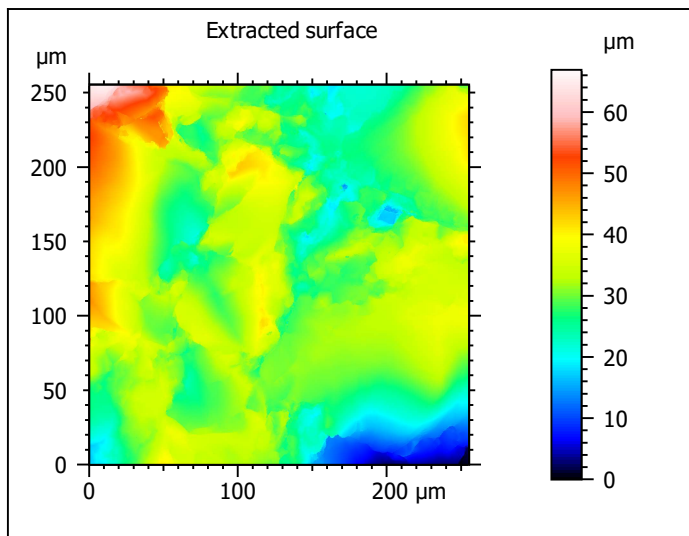


ISO 25178	
Height Parameters	
Sq	2.91 μm
Ssk	-0.25
Sku	5.22
Sp	12.0 μm
Sv	29.2 μm
Sz	41.1 μm
Sa	2.22 μm
Functional Parameters	
Smr	0.000137 %
Smc	3.35 μm
Sxp	6.02 μm
Spatial Parameters	
Sal	16.7 μm
Str	0.645
Std	51.5 $^{\circ}$
Hybrid Parameters	
Sdq	1.91
Sdr	40.7 %
Functional Parameters (Vol...)	
Vm	0.176 $\mu\text{m}^3/\mu\text{m}^2$
Vv	3.52 $\mu\text{m}^3/\mu\text{m}^2$
Vmp	0.176 $\mu\text{m}^3/\mu\text{m}^2$
Vmc	2.42 $\mu\text{m}^3/\mu\text{m}^2$
Vvc	3.15 $\mu\text{m}^3/\mu\text{m}^2$
Vvv	0.372 $\mu\text{m}^3/\mu\text{m}^2$
Functional Parameters (Str...)	
Sk	3.92 μm
Spk	2.73 μm
Svk	2.83 μm
Smr1	13.0 %
Smr2	84.0 %
Spq	*****
Svq	*****
Smq	*****

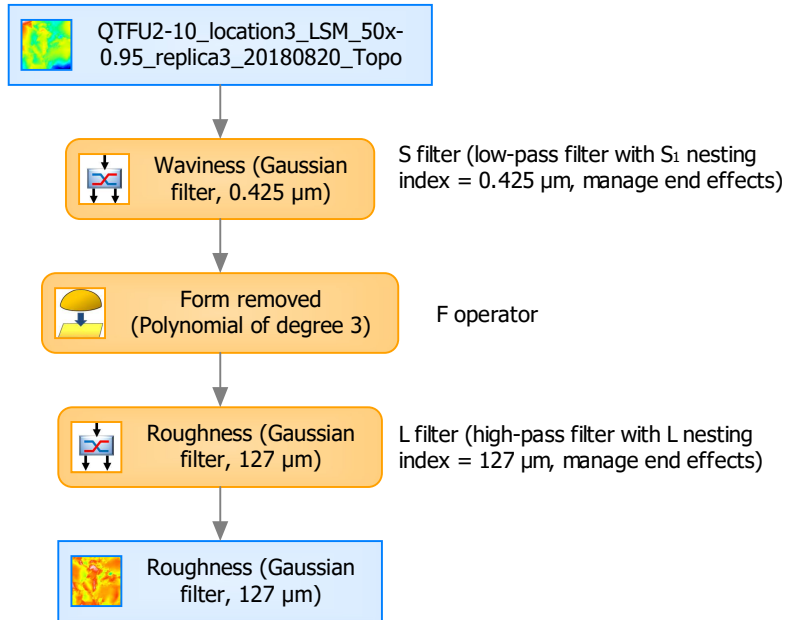


Quartzite QTFU2-10
50x objective, NA = 0.75 or 0.95

Identity card - QTFU2-10_location3_LSM_5...			
Name:	QTFU2-10_location3_LSM_50x-0.95_replica3_20...		
Created on:	8/20/2018 3:06:11 PM		
Axis: X			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Y			
Length:	255	μm	
Size:	3000	points	
Spacing:	85.2	nm	
Axis: Z			
Length:	66.9	μm	
Size:	65532	digits	
Spacing:	1.02	nm	
NMP ratio:	0.00 % (0 Pts)		



ISO 25178	
Height Parameters	
Sq	2.94 μm
Ssk	-0.0327
Sku	3.88
Sp	13.2 μm
Sv	26.2 μm
Sz	39.5 μm
Sa	2.27 μm
Functional Parameters	
Smr	0.00224 %
Smc	3.42 μm
Sxp	6.10 μm
Spatial Parameters	
Sal	17.0 μm
Str	0.595
Std	51.5 $^\circ$
Hybrid Parameters	
Sdq	1.89
Sdr	41.1 %
Functional Parameters (Vol...)	
Vm	0.183 $\mu\text{m}^3/\mu\text{m}^2$
Vv	3.61 $\mu\text{m}^3/\mu\text{m}^2$
Vmp	0.183 $\mu\text{m}^3/\mu\text{m}^2$
Vmc	2.51 $\mu\text{m}^3/\mu\text{m}^2$
Vvc	3.24 $\mu\text{m}^3/\mu\text{m}^2$
Vvv	0.365 $\mu\text{m}^3/\mu\text{m}^2$
Functional Parameters (Str...)	
Sk	3.96 μm
Spk	2.85 μm
Svk	2.86 μm
Smr1	13.0 %
Smr2	84.0 %
Spq	*****
Svq	*****
Smq	*****



**Roughness standard $Ra = 0.4 \mu\text{m}$
50x objective, NA = 0.75 or 0.95, 4x1 tiles**

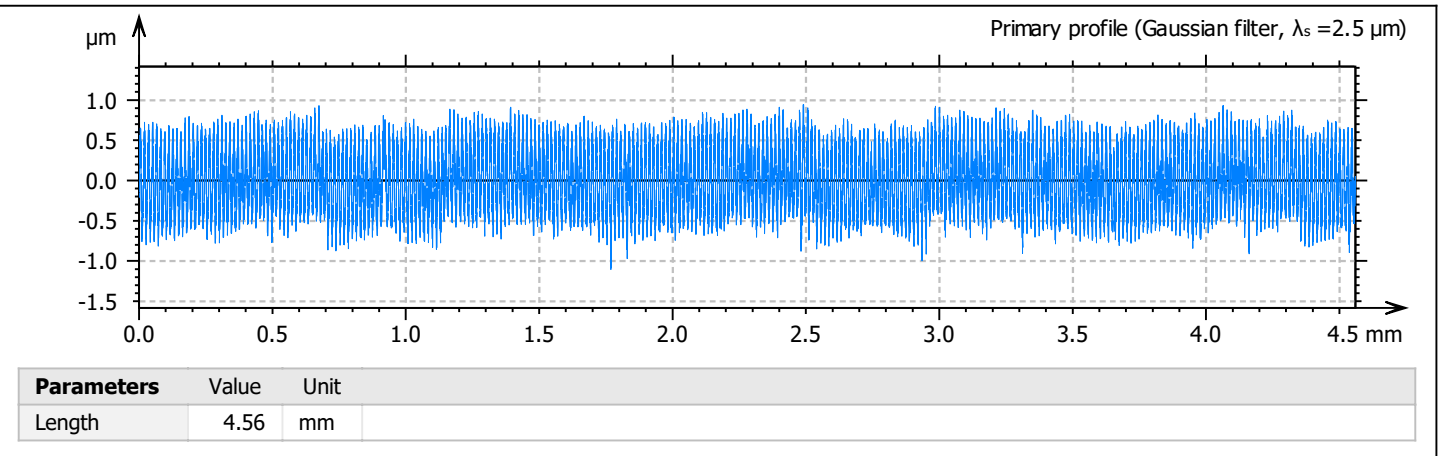
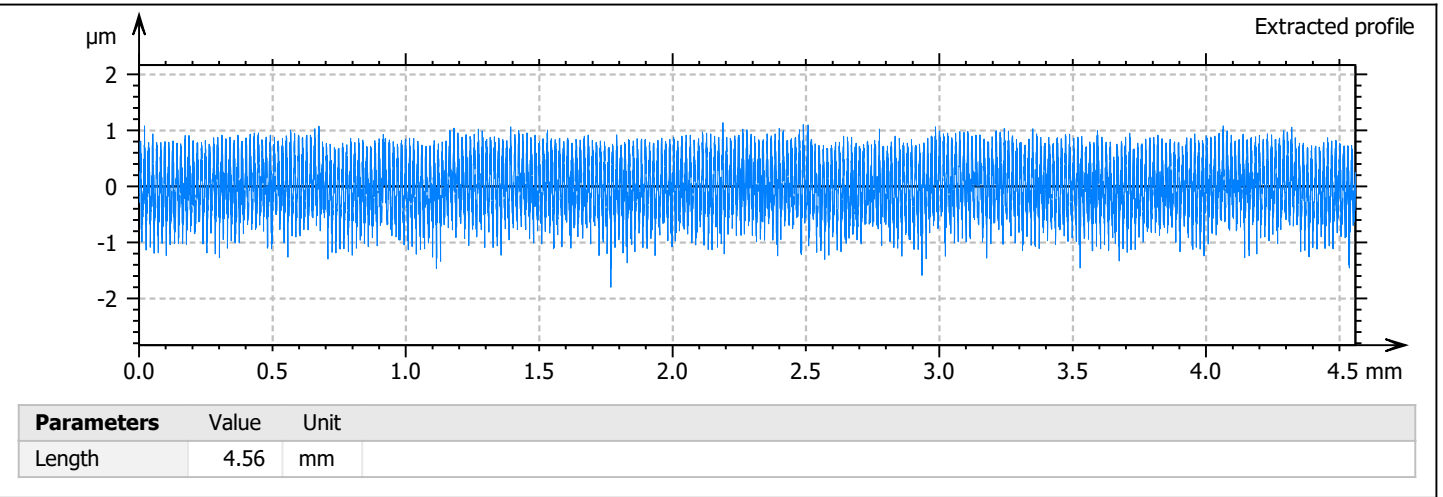
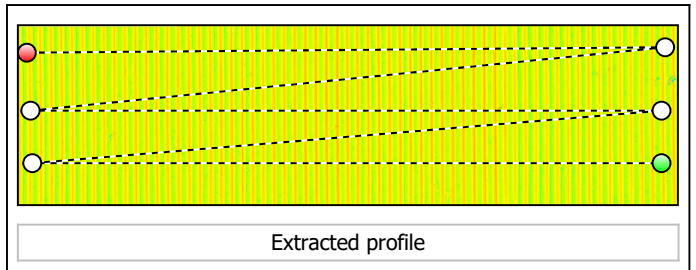
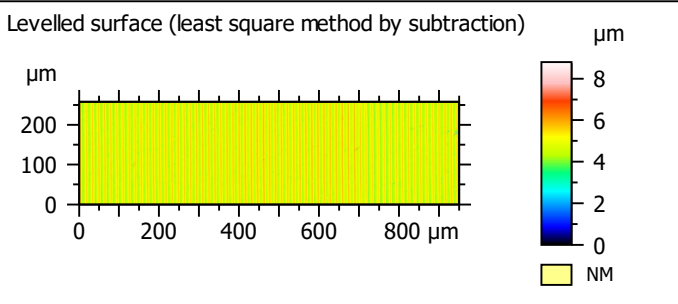
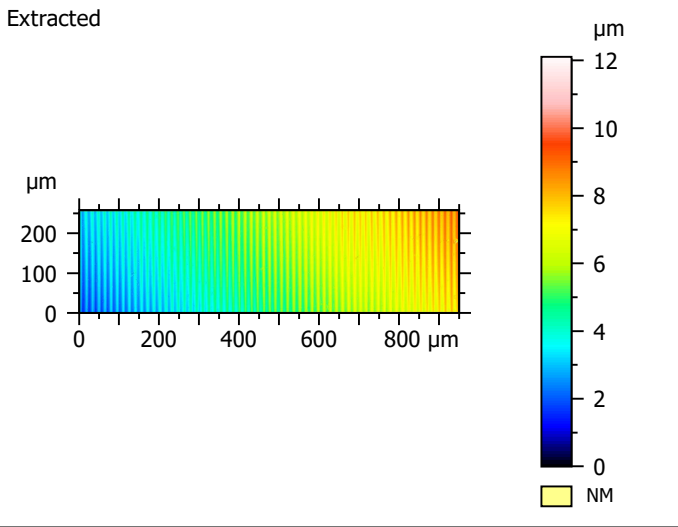
Identity card - roughnessStandard0.4um_locat...

Name: roughnessStandard0.4um_location1_LSM_50x-0.75_...
Created on: 8/15/2018 12:52:07 PM

Axis: X
Length: 950 μm
Size: 7617 points
Spacing: 0.125 μm

Axis: Y
Length: 258 μm
Size: 2069 points
Spacing: 0.125 μm

Axis: Z
Length: 12.1 μm
Size: 65532 digits
Spacing: 0.185 nm
NMP ratio: 0.989 % (155932 Pts)

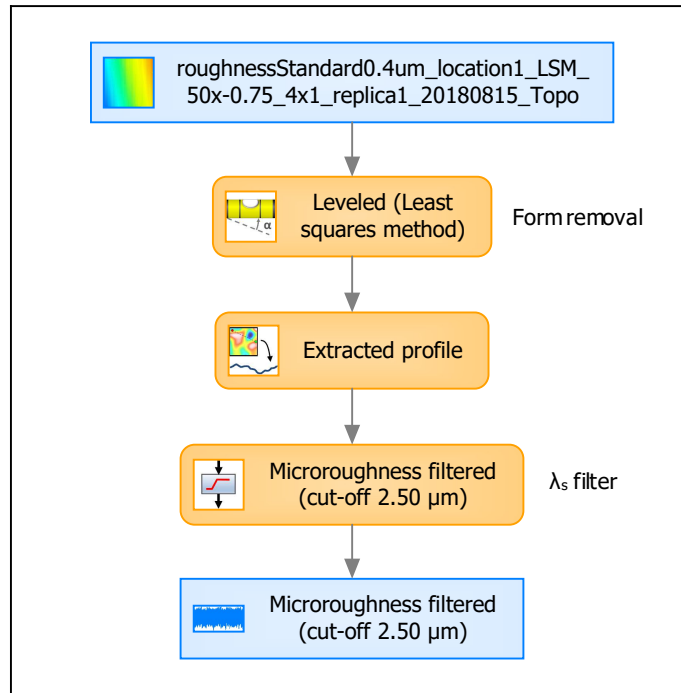


ISO 4287

Amplitude parameters - Roughness profile

Ra	0.396	μm	Gaussian filter, 0.8 mm	Arithmetic mean deviation of the roughness profile.
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Parameters	Value	Unit	Tolerance
Ra - Amplitude parameters - Roughness profile - ISO 4287	0.396	μm	0.400 μm ± 0.050 μm 



**Roughness standard $Ra = 0.4 \mu\text{m}$
50x objective, NA = 0.75 or 0.95, 4x1 tiles**

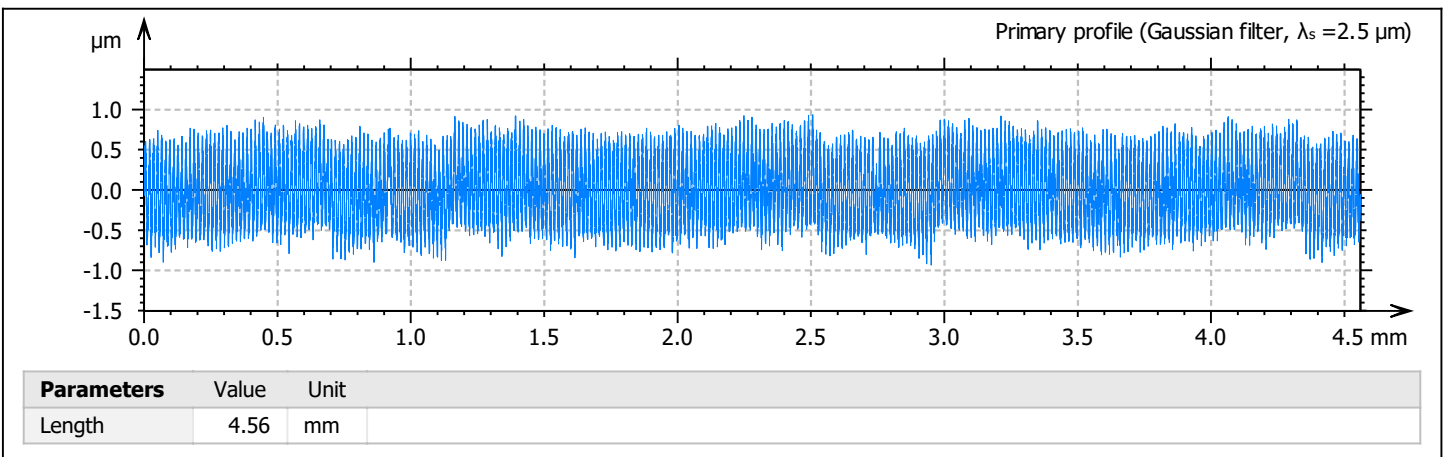
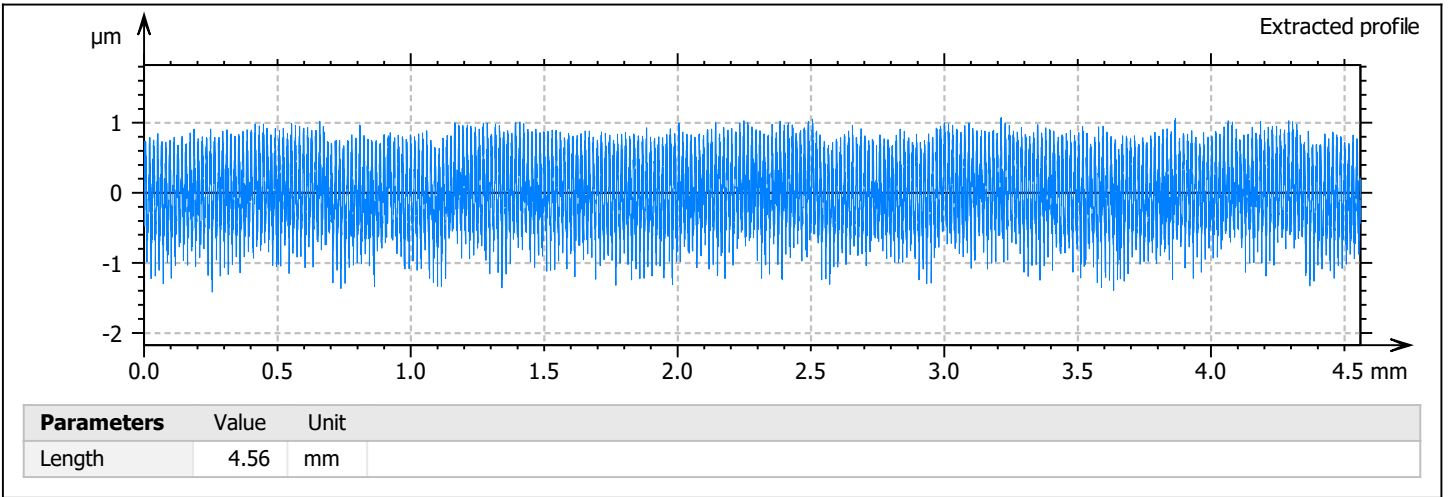
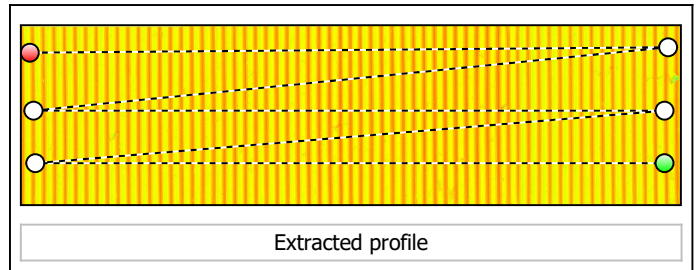
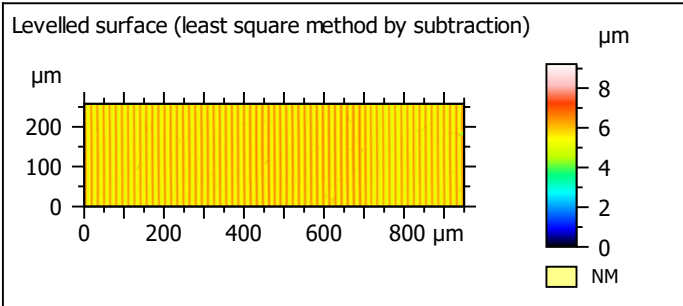
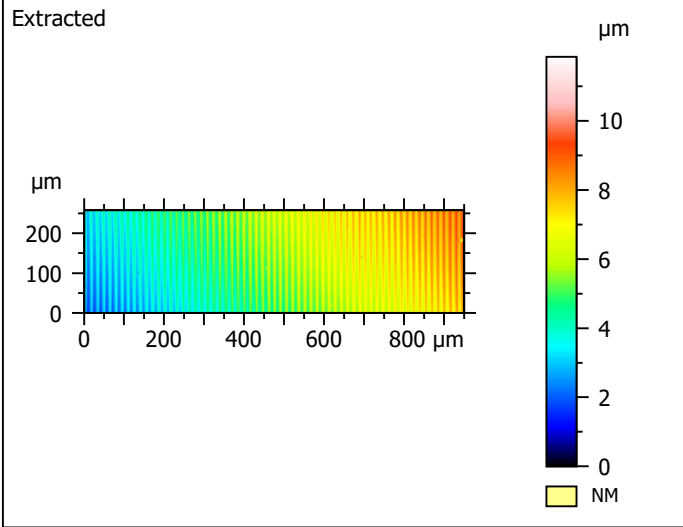
Identity card - roughnessStandard0.4um_locat...

Name: roughnessStandard0.4um_location1_LSM_50x-0.75_...
Created on: 8/15/2018 1:11:25 PM

Axis: X
Length: 950 μm
Size: 7617 points
Spacing: 0.125 μm

Axis: Y
Length: 258 μm
Size: 2069 points
Spacing: 0.125 μm

Axis: Z
Length: 11.9 μm
Size: 65532 digits
Spacing: 0.181 nm
NMP ratio: 0.989 % (155932 Pts)

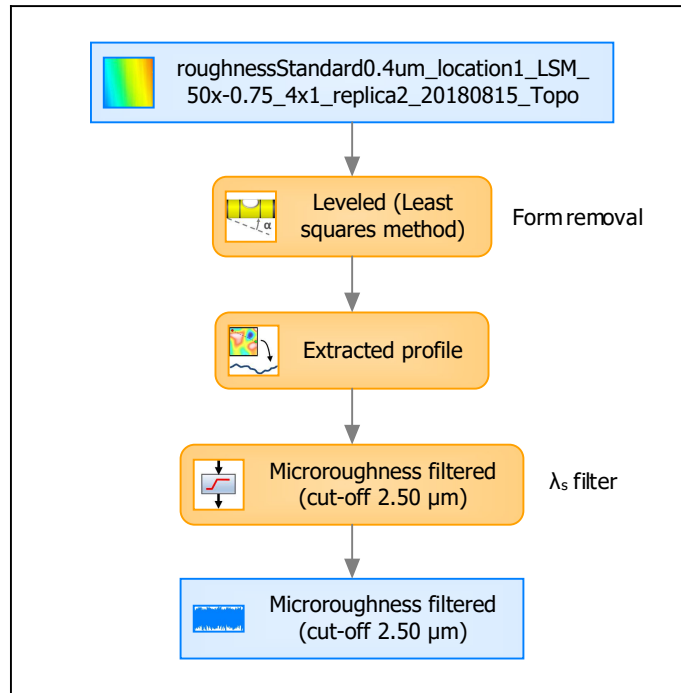


ISO 4287

Amplitude parameters - Roughness profile

Ra	0.395	µm	Gaussian filter, 0.8 mm	Arithmetic mean deviation of the roughness profile.
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Parameters	Value	Unit	Tolerance
Ra - Amplitude parameters - Roughness profile - ISO 4287	0.395	µm	0.400 µm ± 0.050 µm



**Roughness standard $Ra = 0.4 \mu\text{m}$
50x objective, NA = 0.75 or 0.95, 4x1 tiles**

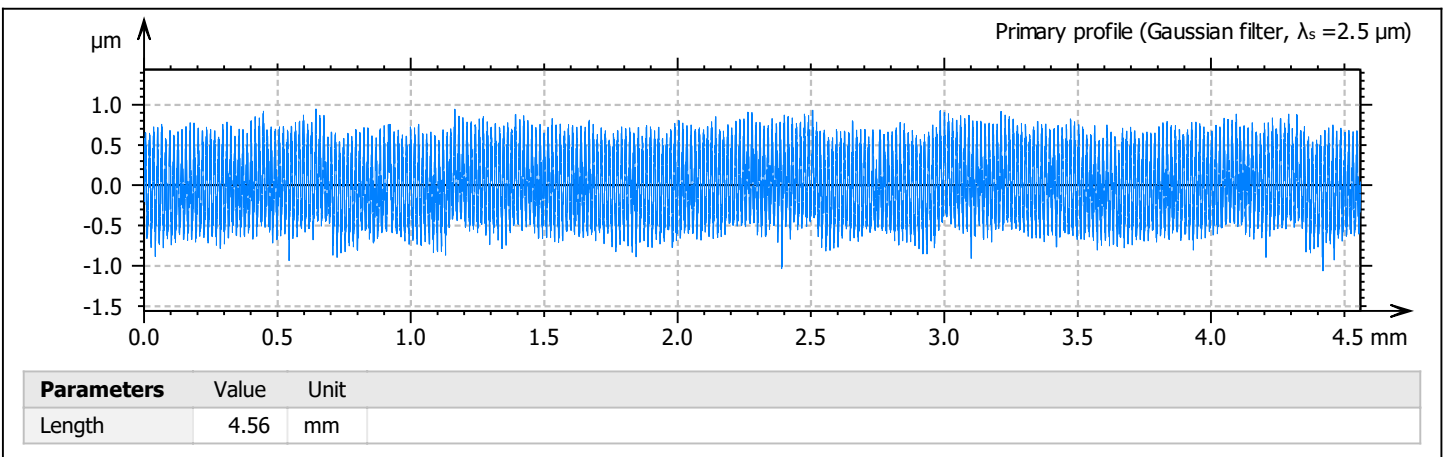
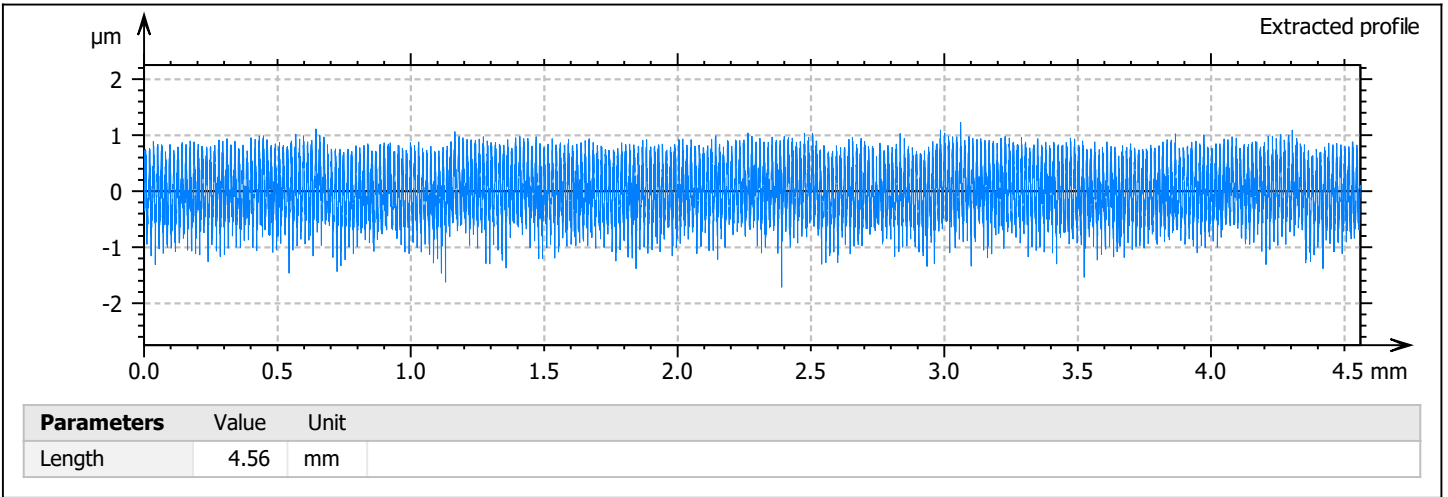
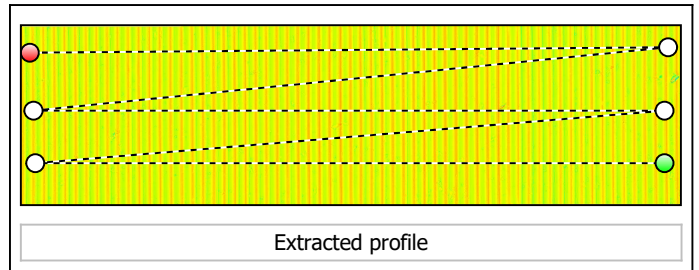
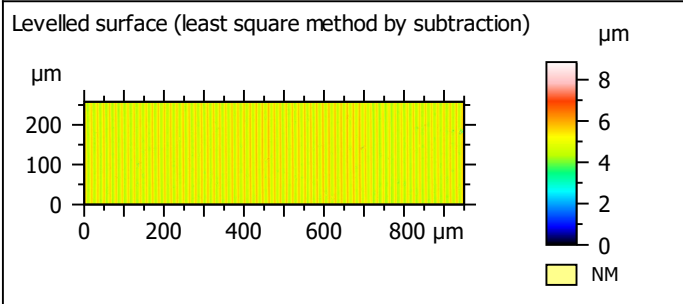
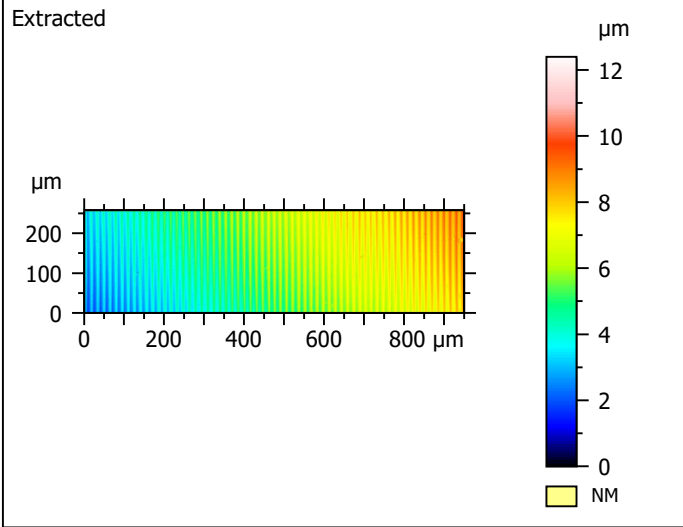
Identity card - roughnessStandard0.4um_locat...

Name: roughnessStandard0.4um_location1_LSM_50x-0.75_...
Created on: 8/15/2018 1:30:08 PM

Axis: X
Length: 950 μm
Size: 7617 points
Spacing: 0.125 μm

Axis: Y
Length: 258 μm
Size: 2069 points
Spacing: 0.125 μm


Axis: Z
Length: 12.4 μm
Size: 65532 digits
Spacing: 0.189 nm
NMP ratio: 0.989 % (155932 Pts)

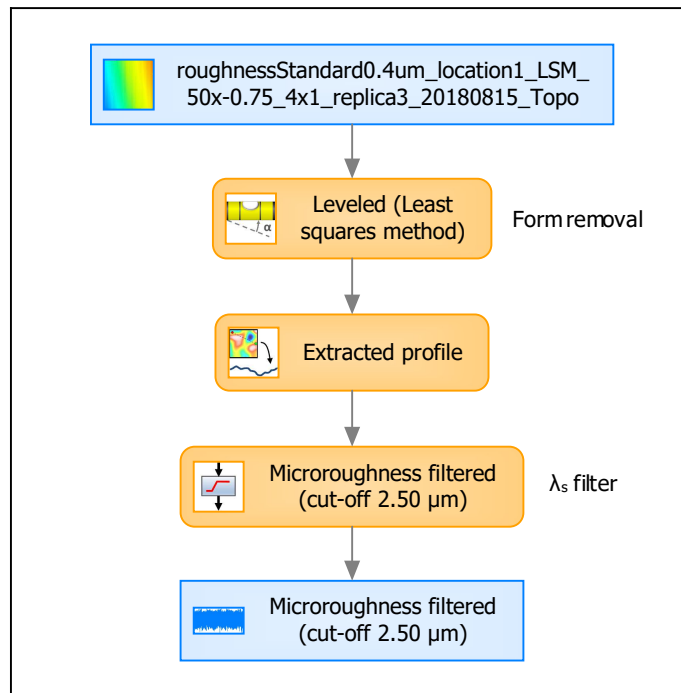


ISO 4287

Amplitude parameters - Roughness profile

Ra	0.396	μm	Gaussian filter, 0.8 mm	Arithmetic mean deviation of the roughness profile.
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Parameters	Value	Unit	Tolerance
Ra - Amplitude parameters - Roughness profile - ISO 4287	0.396	μm	0.400 μm ± 0.050 μm 



**Roughness standard $Ra = 0.4 \mu\text{m}$
50x objective, NA = 0.75 or 0.95, 4x1 tiles**

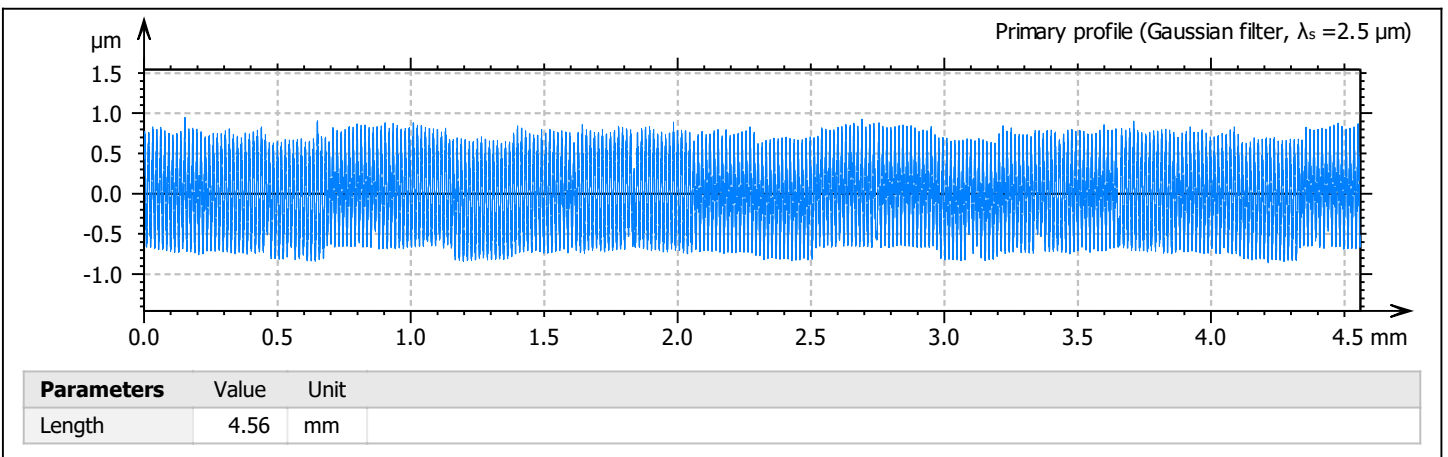
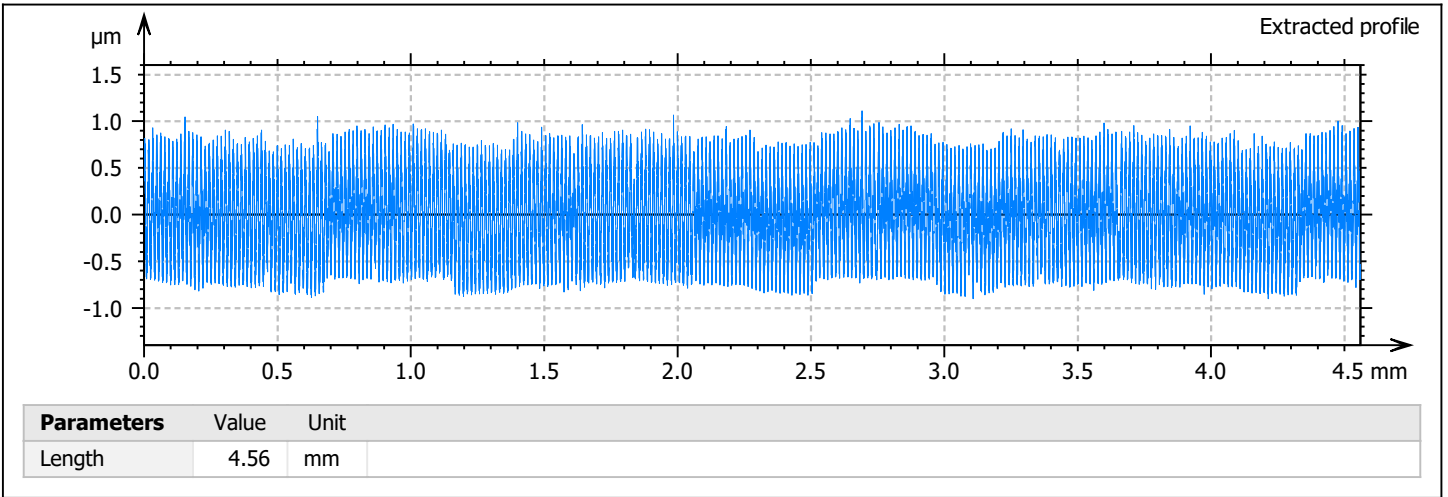
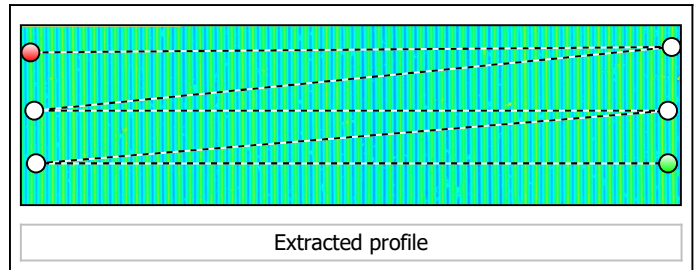
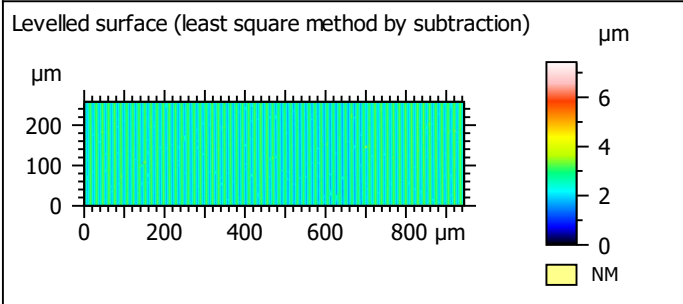
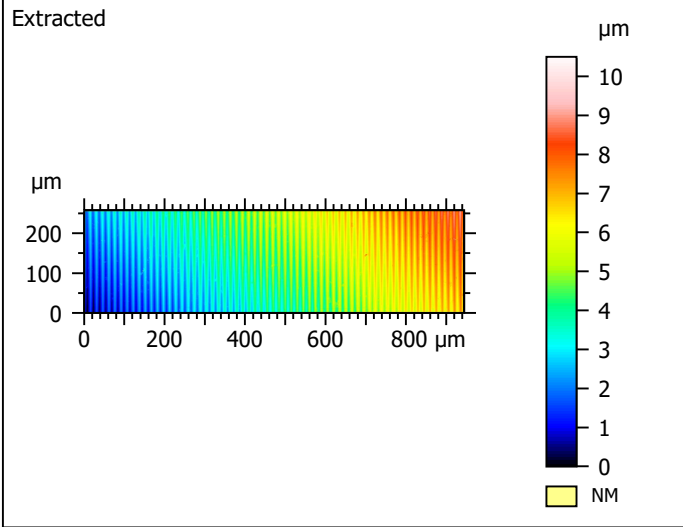
Identity card - roughnessStandard0.4um_locat...

Name: roughnessStandard0.4um_location1_LSM_50x-0.95_...
Created on: 8/15/2018 12:35:19 PM

Axis: X
Length: 944 μm
Size: 7569 points
Spacing: 0.125 μm

Axis: Y
Length: 258 μm
Size: 2069 points
Spacing: 0.125 μm


Axis: Z
Length: 10.5 μm
Size: 65531 digits
Spacing: 0.160 nm
NMP ratio: 0.987 % (154588 Pts)

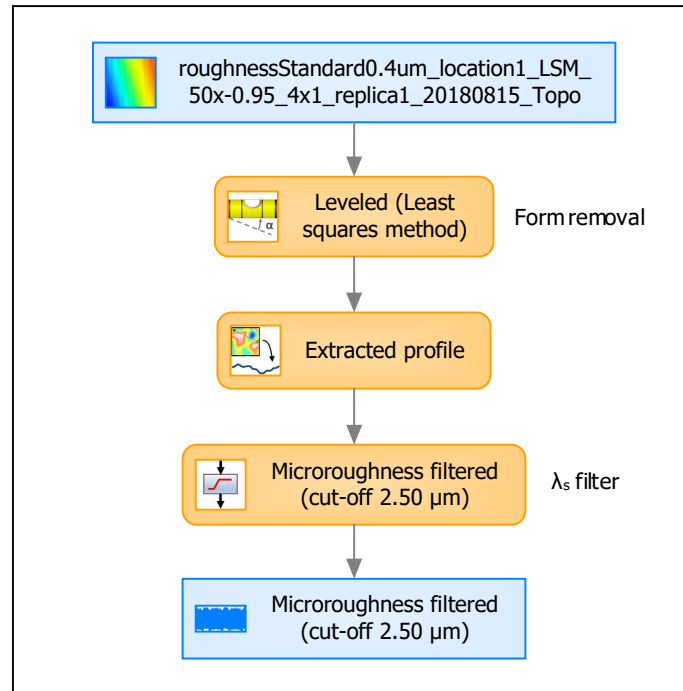


ISO 4287

Amplitude parameters - Roughness profile

Ra	0.418	μm	Gaussian filter, 0.8 mm	Arithmetic mean deviation of the roughness profile.
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Parameters	Value	Unit	Tolerance
Ra - Amplitude parameters - Roughness profile - ISO 4287	0.418	μm	0.400 μm ± 0.050 μm 



**Roughness standard $Ra = 0.4 \mu\text{m}$
50x objective, NA = 0.75 or 0.95, 4x1 tiles**

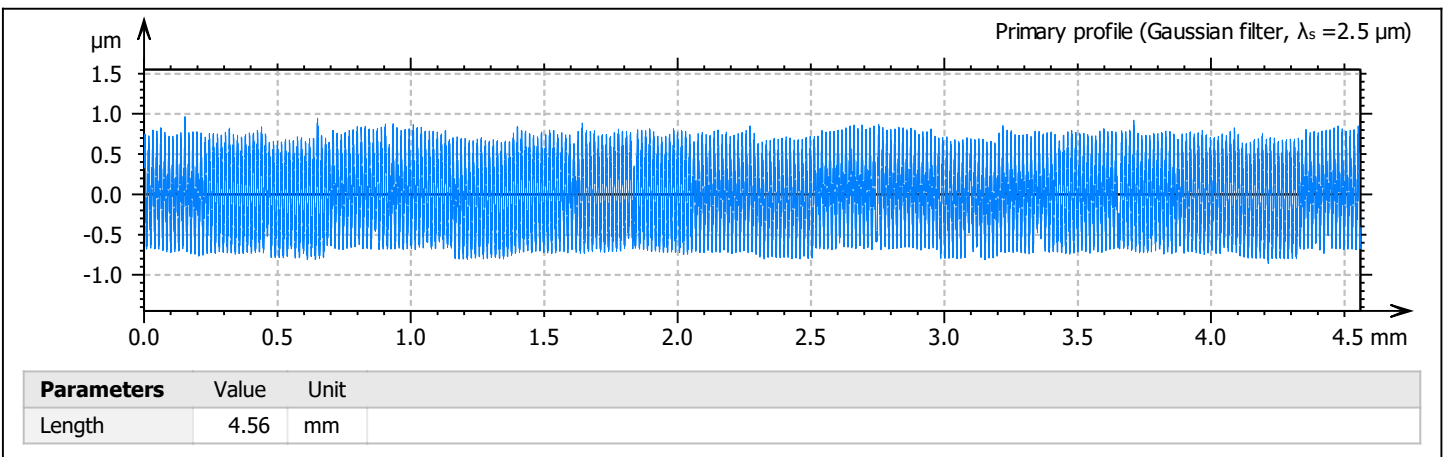
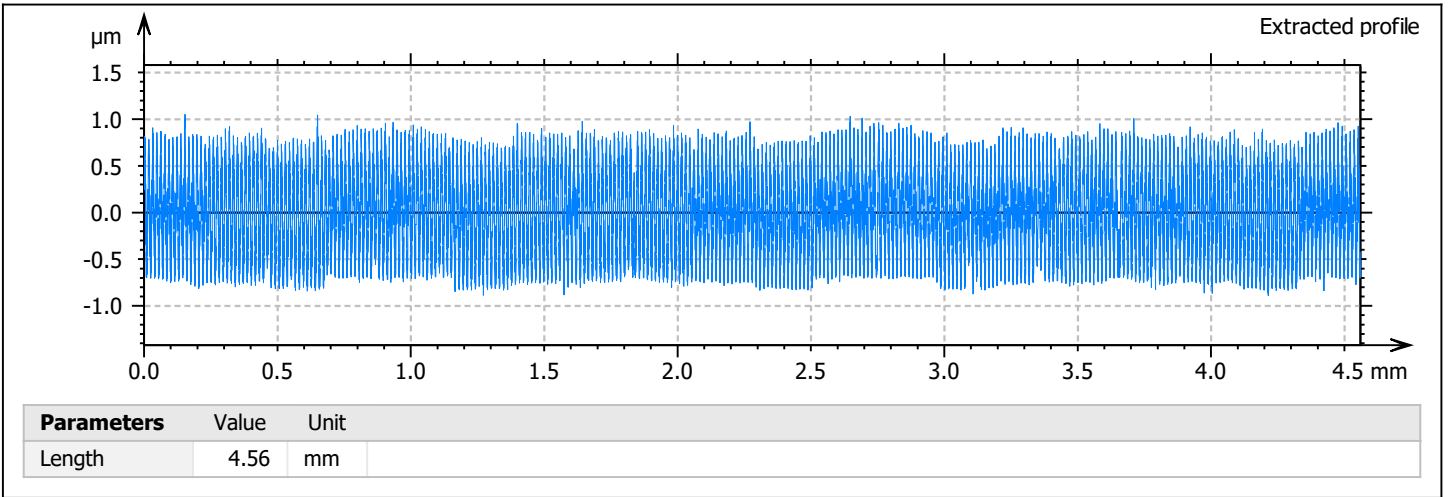
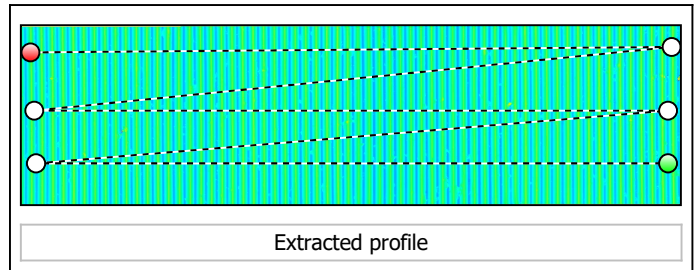
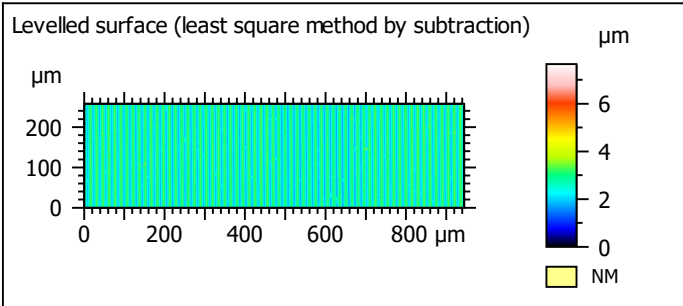
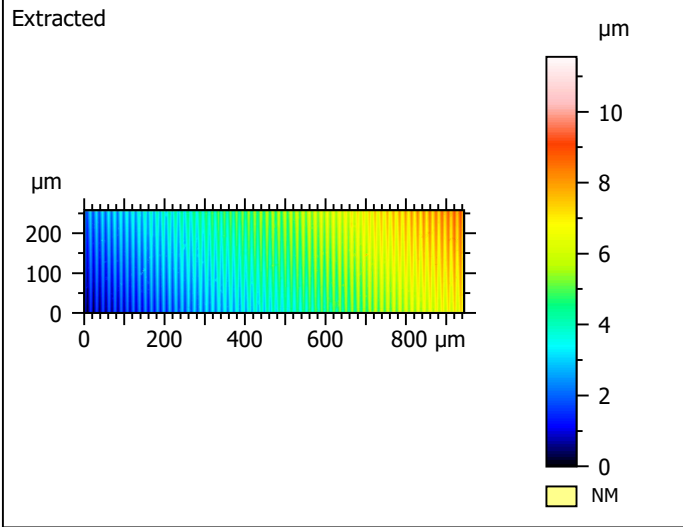
Identity card - roughnessStandard0.4um_locat...

Name: roughnessStandard0.4um_location1_LSM_50x-0.95_...
Created on: 8/15/2018 1:02:18 PM

Axis: X
Length: 944 μm
Size: 7569 points
Spacing: 0.125 μm

Axis: Y
Length: 258 μm
Size: 2069 points
Spacing: 0.125 μm

Axis: Z
Length: 11.5 μm
Size: 65532 digits
Spacing: 0.176 nm
NMP ratio: 0.987 % (154588 Pts)

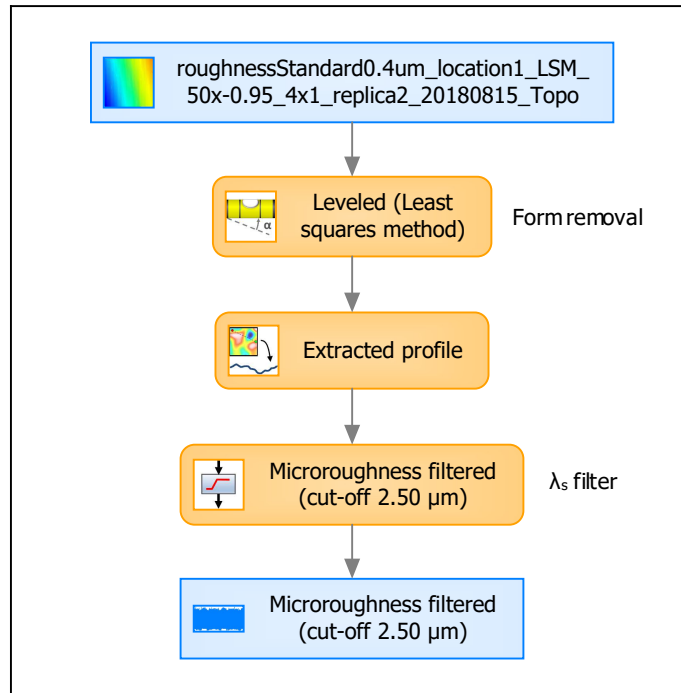


ISO 4287

Amplitude parameters - Roughness profile

Ra	0.415	μm	Gaussian filter, 0.8 mm	Arithmetic mean deviation of the roughness profile.
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Parameters	Value	Unit	Tolerance
Ra - Amplitude parameters - Roughness profile - ISO 4287	0.415	μm	0.400 μm ± 0.050 μm



**Roughness standard $Ra = 0.4 \mu\text{m}$
50x objective, NA = 0.75 or 0.95, 4x1 tiles**

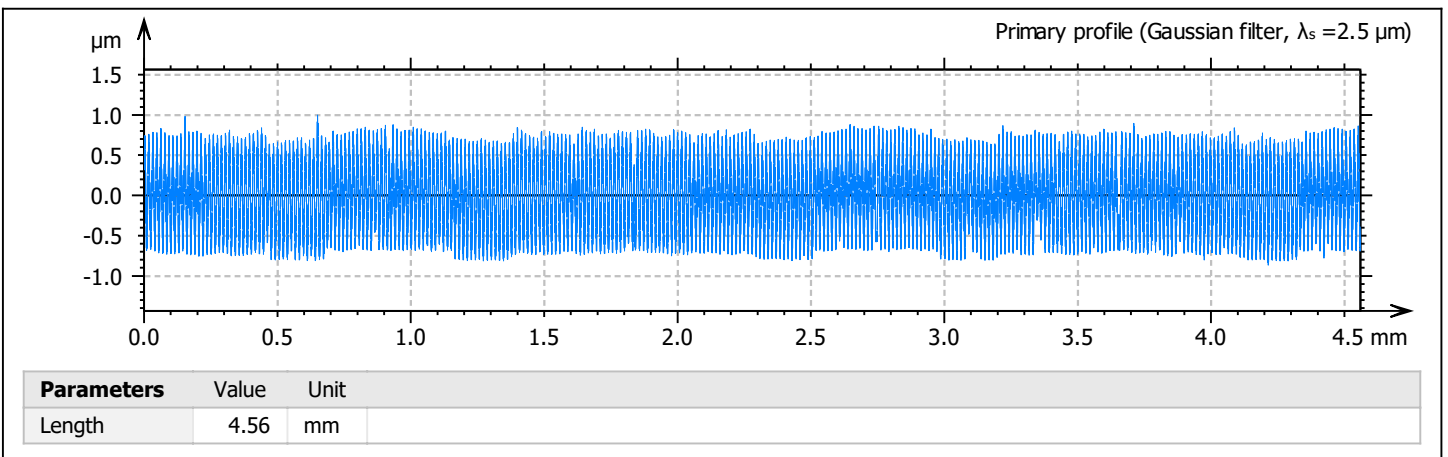
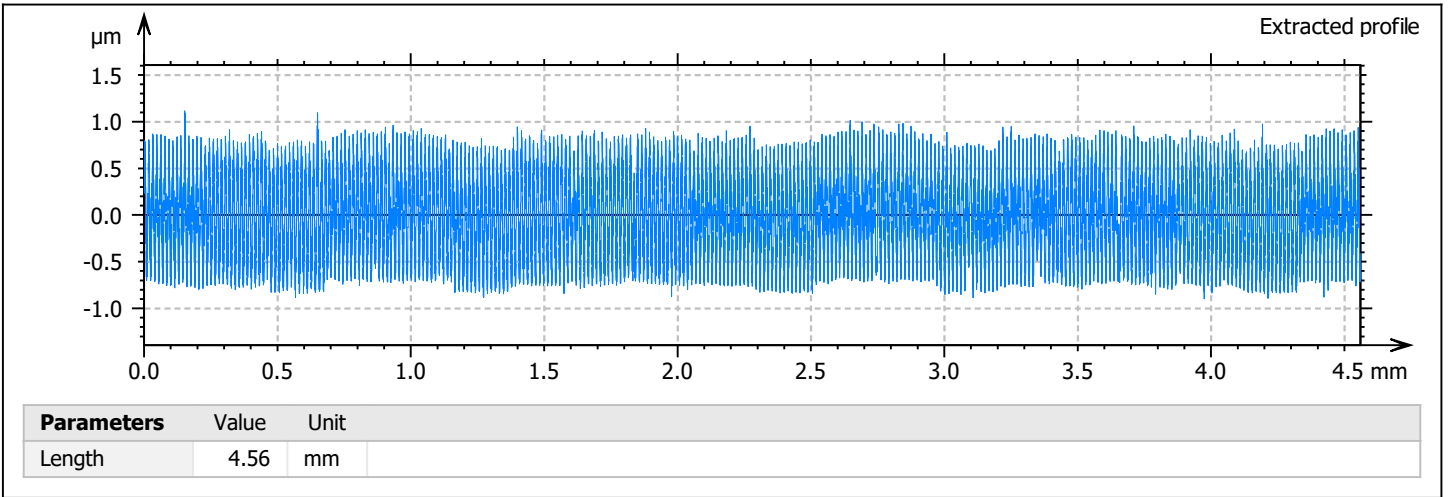
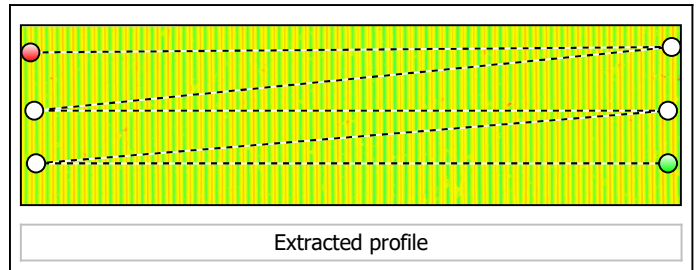
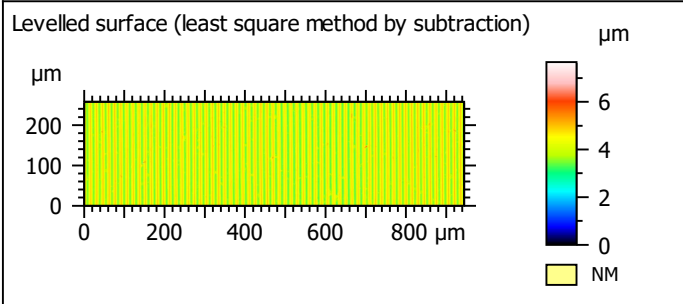
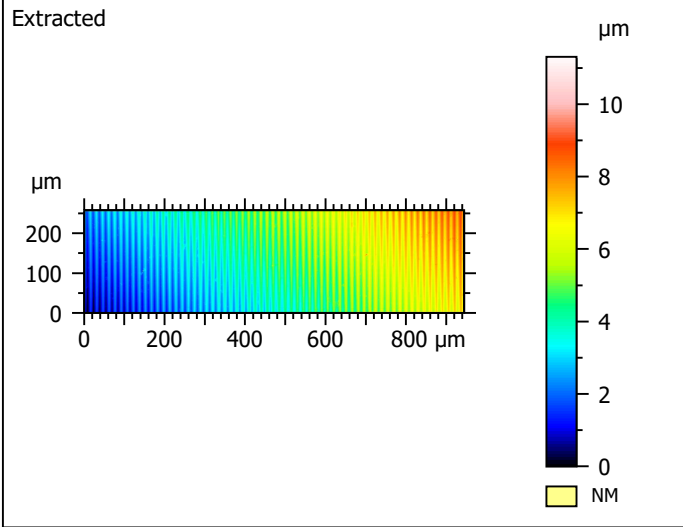
Identity card - roughnessStandard0.4um_locat...

Name: roughnessStandard0.4um_location1_LSM_50x-0.95_...
Created on: 8/15/2018 1:21:05 PM

Axis: X
Length: 944 μm
Size: 7569 points
Spacing: 0.125 μm

Axis: Y
Length: 258 μm
Size: 2069 points
Spacing: 0.125 μm


Axis: Z
Length: 11.3 μm
Size: 65531 digits
Spacing: 0.173 nm
NMP ratio: 0.987 % (154588 Pts)

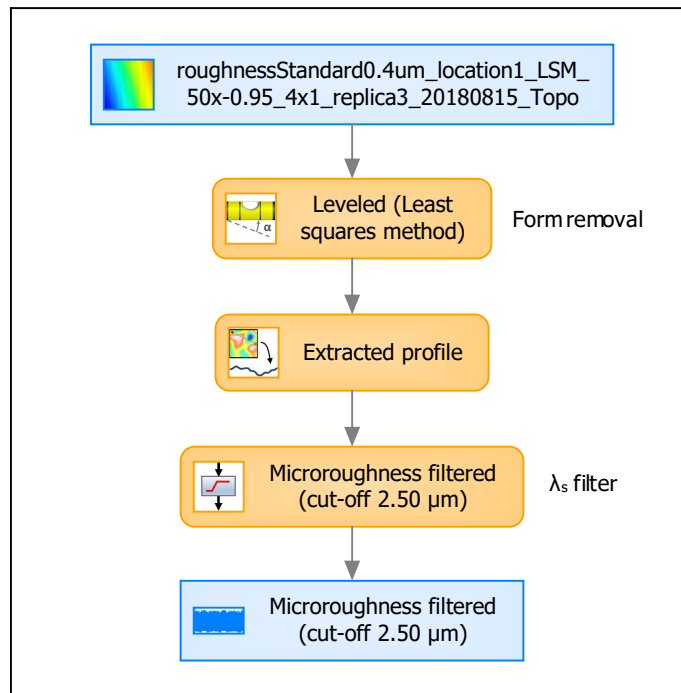


ISO 4287

Amplitude parameters - Roughness profile

Ra	0.417	µm	Gaussian filter, 0.8 mm	Arithmetic mean deviation of the roughness profile.
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Parameters	Value	Unit	Tolerance
Ra - Amplitude parameters - Roughness profile - ISO 4287	0.417	µm	0.400 µm ± 0.050 µm 



**Roughness standard $Ra = 0.4 \mu\text{m}$
50x objective, NA = 0.75 or 0.95, 4x1 tiles**

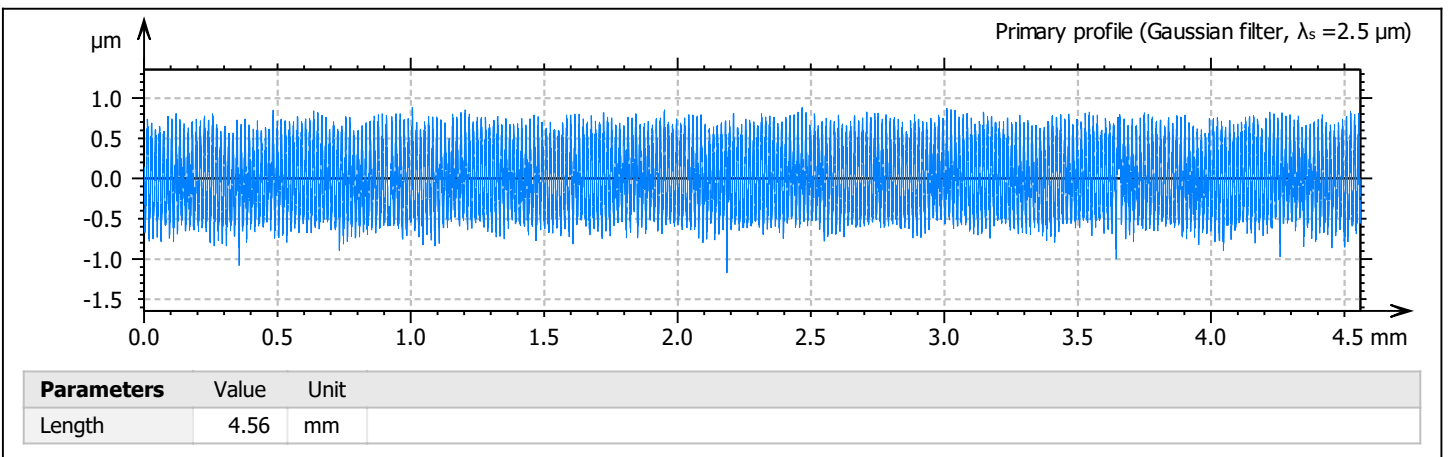
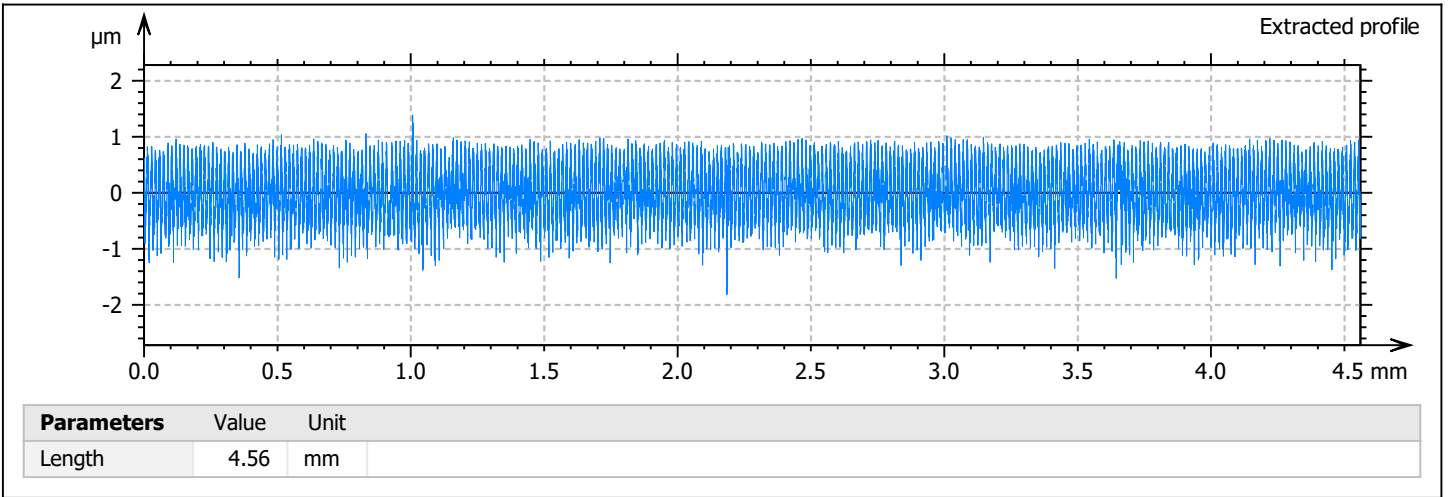
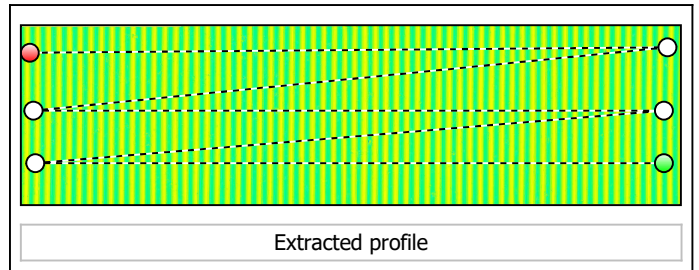
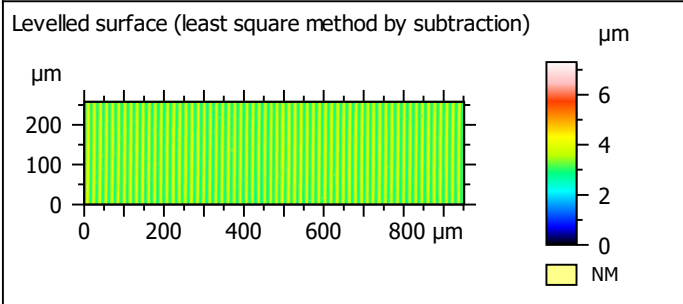
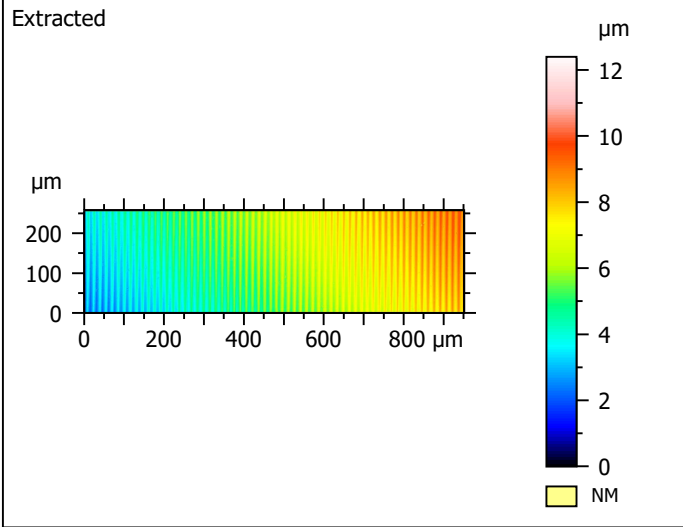
Identity card - roughnessStandard0.4um_locat...

Name: roughnessStandard0.4um_location2_LSM_50x-0.75_...
Created on: 8/16/2018 1:50:21 PM

Axis: X
Length: 951 μm
Size: 7625 points
Spacing: 0.125 μm

Axis: Y
Length: 258 μm
Size: 2069 points
Spacing: 0.125 μm

Axis: Z
Length: 12.4 μm
Size: 65532 digits
Spacing: 0.189 nm
NMP ratio: 0.990 % (156156 Pts)

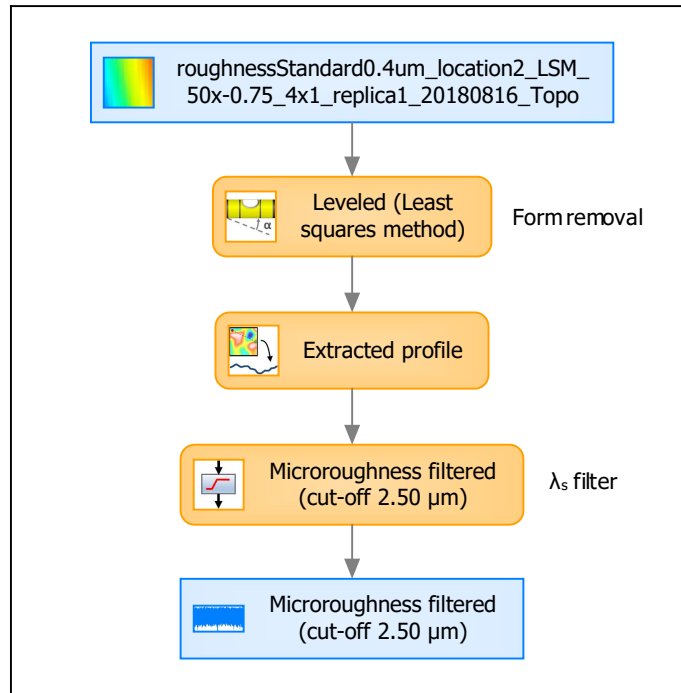


ISO 4287

Amplitude parameters - Roughness profile

Ra	0.396	μm	Gaussian filter, 0.8 mm	Arithmetic mean deviation of the roughness profile.
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Parameters	Value	Unit	Tolerance
Ra - Amplitude parameters - Roughness profile - ISO 4287	0.396	μm	0.400 μm ± 0.050 μm



**Roughness standard $Ra = 0.4 \mu\text{m}$
50x objective, NA = 0.75 or 0.95, 4x1 tiles**

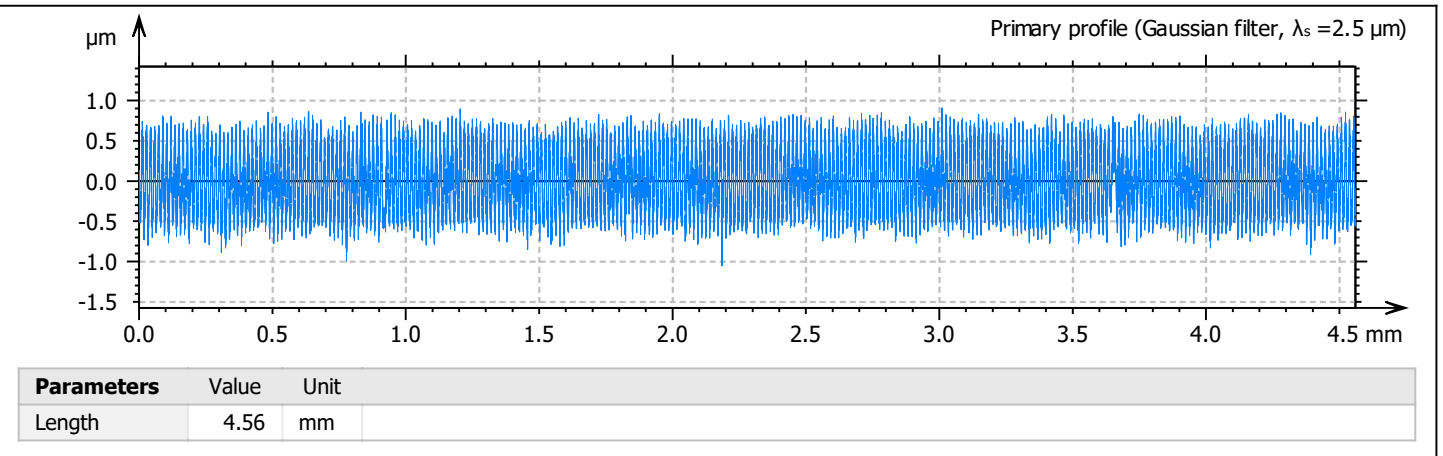
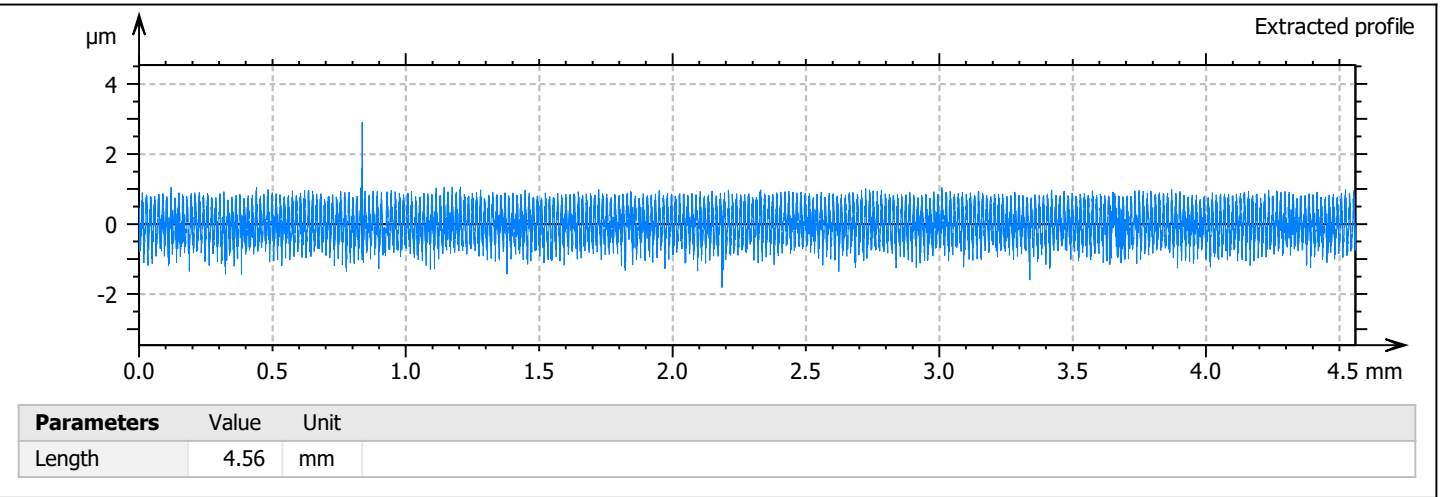
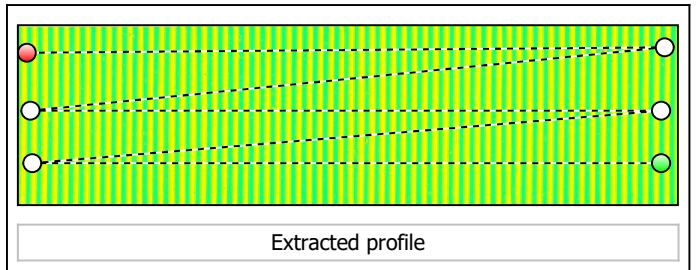
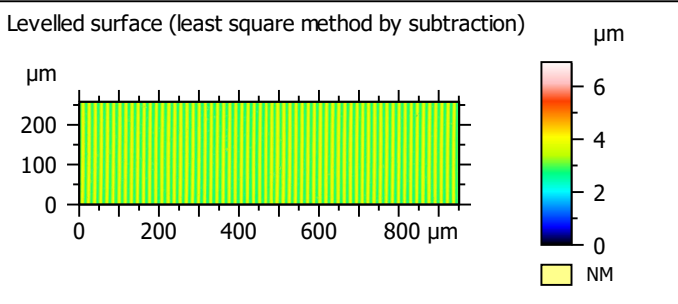
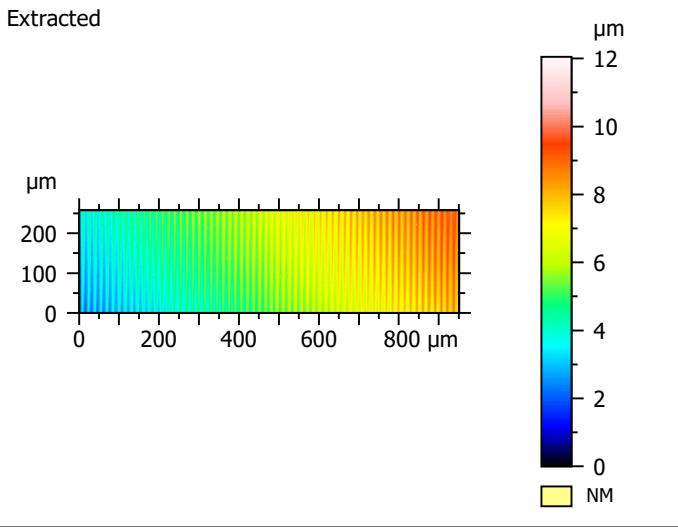
Identity card - roughnessStandard0.4um_locat...

Name: roughnessStandard0.4um_location2_LSM_50x-0.75_...
Created on: 8/16/2018 2:05:37 PM

Axis: X
Length: 951 μm
Size: 7622 points
Spacing: 0.125 μm

Axis: Y
Length: 258 μm
Size: 2069 points
Spacing: 0.125 μm

Axis: Z
Length: 12.0 μm
Size: 65532 digits
Spacing: 0.184 nm
NMP ratio: 0.990 % (156072 Pts)

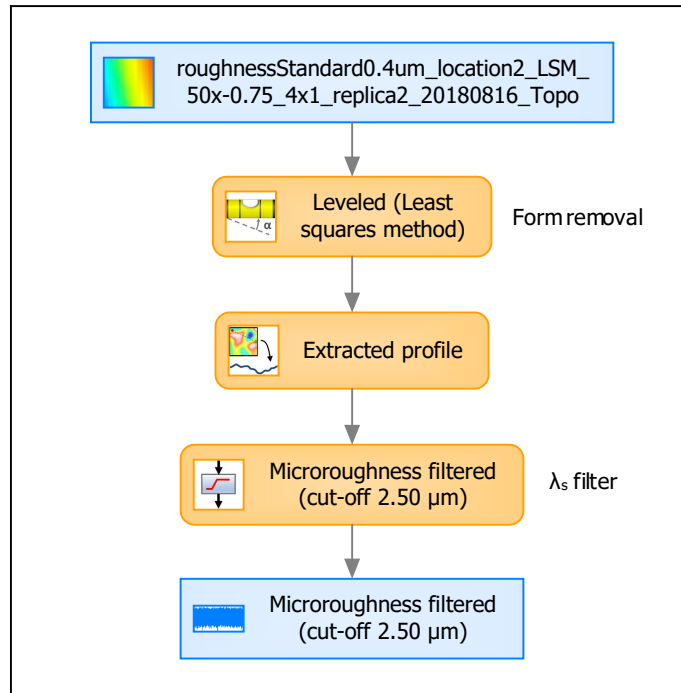


ISO 4287

Amplitude parameters - Roughness profile

Ra	0.398	μm	Gaussian filter, 0.8 mm	Arithmetic mean deviation of the roughness profile.
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Parameters	Value	Unit	Tolerance
Ra - Amplitude parameters - Roughness profile - ISO 4287	0.398	μm	0.400 μm ± 0.050 μm



**Roughness standard $Ra = 0.4 \mu\text{m}$
50x objective, NA = 0.75 or 0.95, 4x1 tiles**

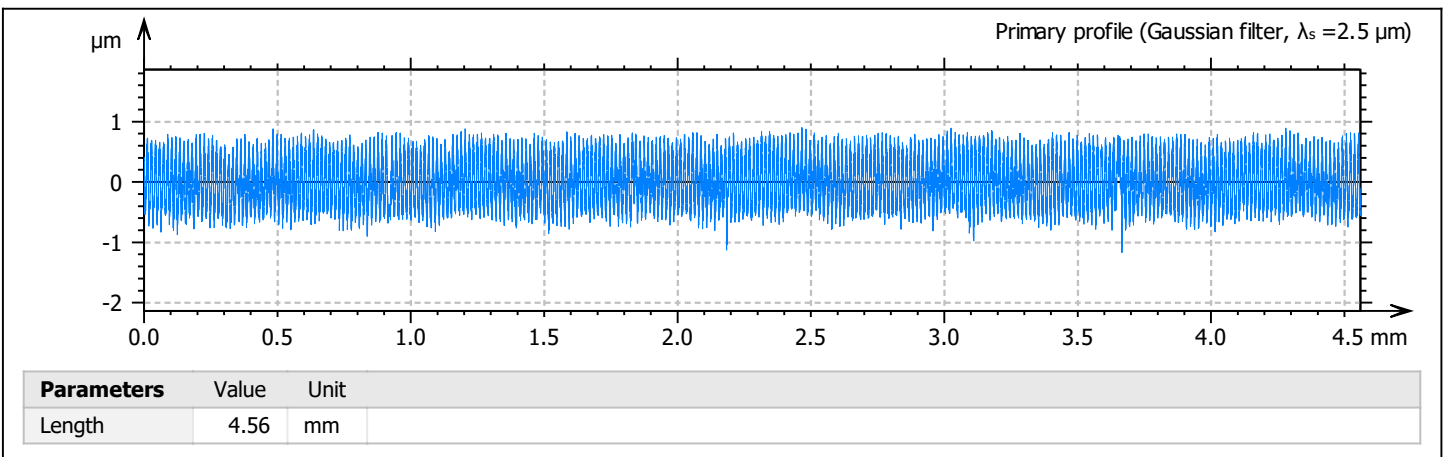
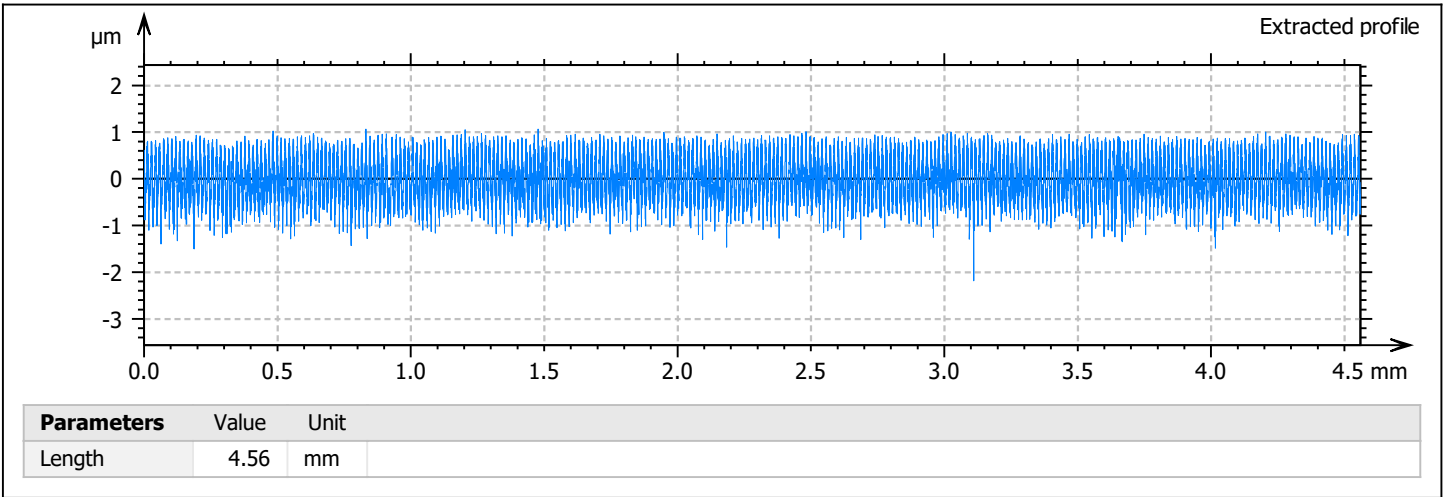
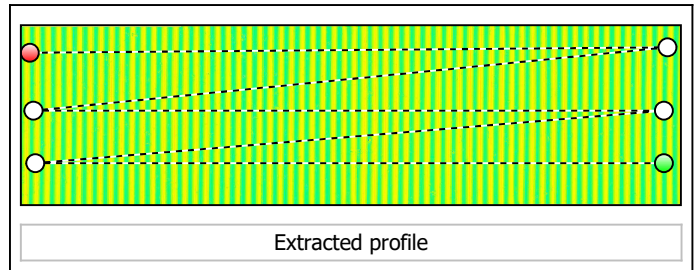
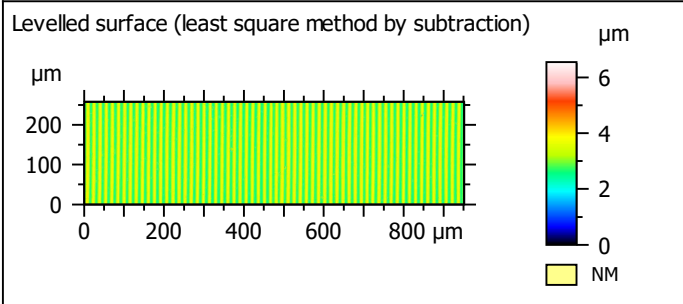
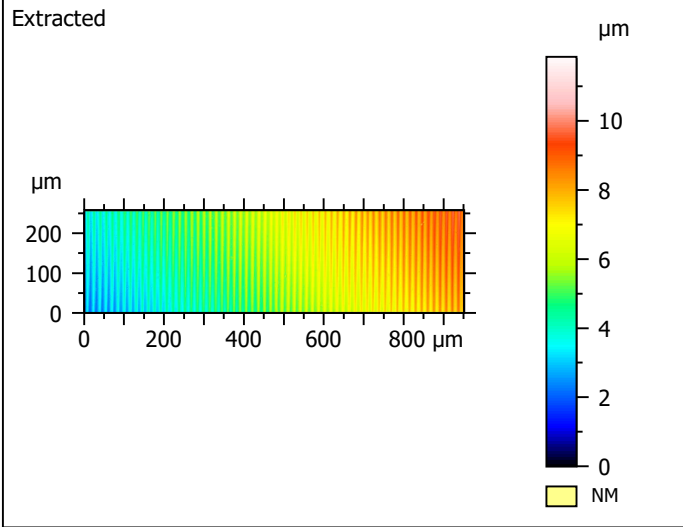
Identity card - roughnessStandard0.4um_locat...

Name: roughnessStandard0.4um_location2_LSM_50x-0.75_...
Created on: 8/16/2018 2:21:48 PM

Axis: X
Length: 951 μm
Size: 7625 points
Spacing: 0.125 μm

Axis: Y
Length: 258 μm
Size: 2069 points
Spacing: 0.125 μm


Axis: Z
Length: 11.9 μm
Size: 65531 digits
Spacing: 0.181 nm
NMP ratio: 0.990 % (156156 Pts)

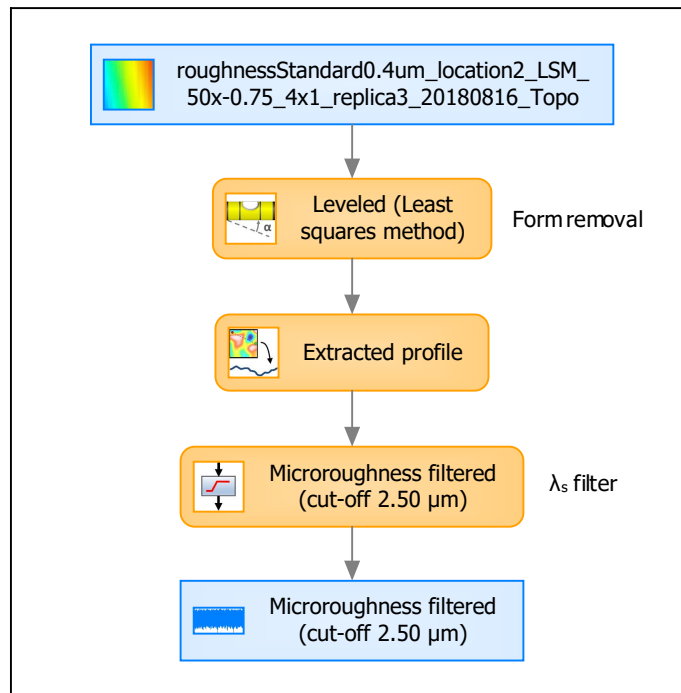


ISO 4287

Amplitude parameters - Roughness profile

Ra	0.398	μm	Gaussian filter, 0.8 mm	Arithmetic mean deviation of the roughness profile.
----	-------	----	-------------------------	---

Parameters	Value	Unit	Tolerance
Ra - Amplitude parameters - Roughness profile - ISO 4287	0.398	μm	0.400 μm ± 0.050 μm 



**Roughness standard $Ra = 0.4 \mu\text{m}$
50x objective, NA = 0.75 or 0.95, 4x1 tiles**

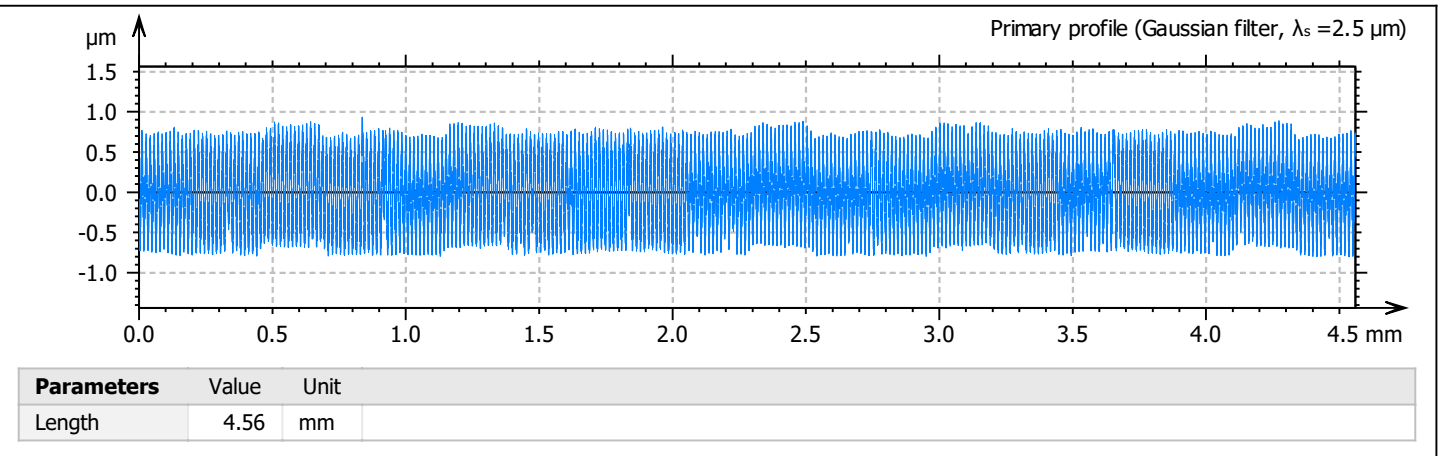
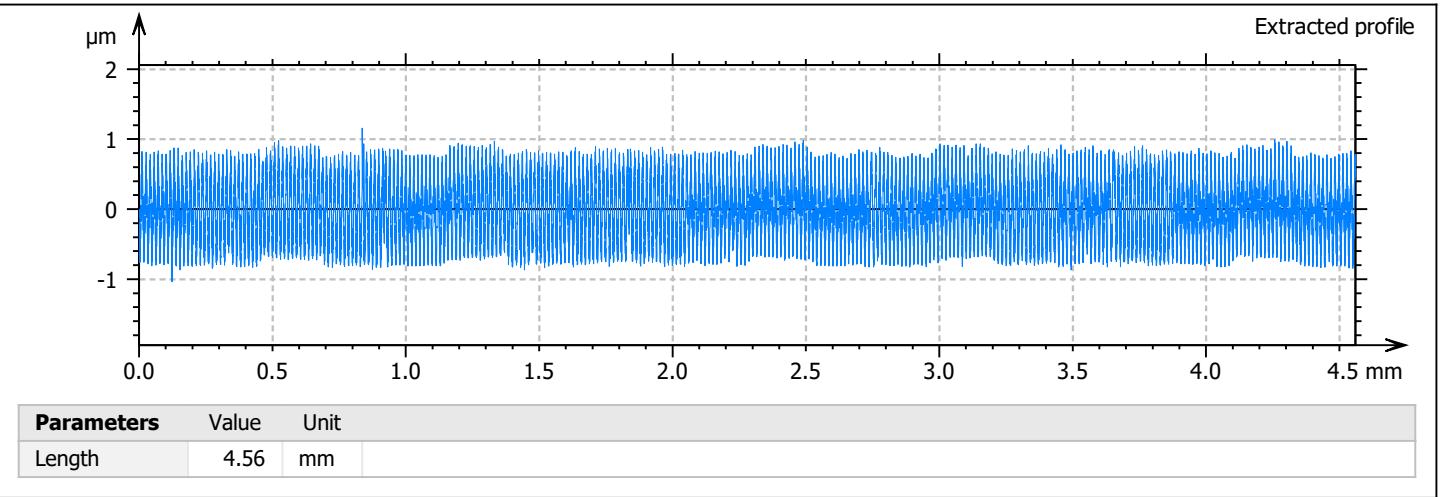
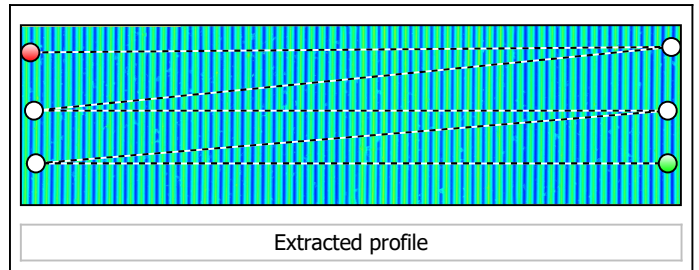
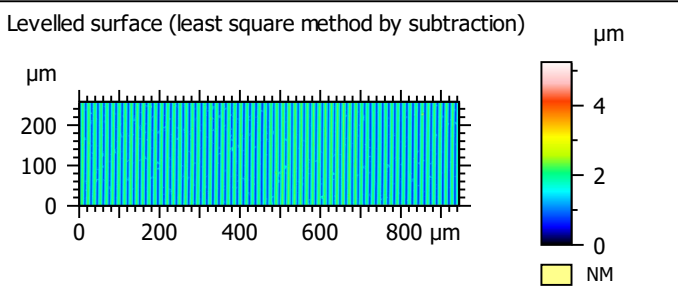
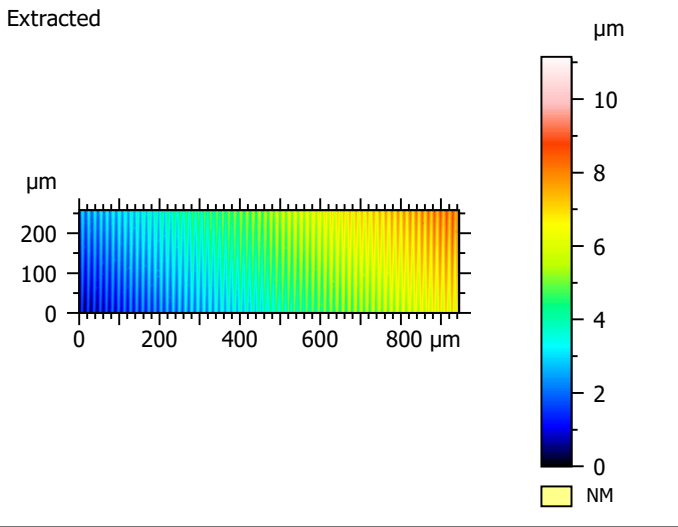
Identity card - roughnessStandard0.4um_locat...

Name: roughnessStandard0.4um_location2_LSM_50x-0.95_...
Created on: 8/16/2018 1:40:35 PM

Axis: X
Length: 945 μm
Size: 7574 points
Spacing: 0.125 μm

Axis: Y
Length: 258 μm
Size: 2069 points
Spacing: 0.125 μm

Axis: Z
Length: 11.2 μm
Size: 65531 digits
Spacing: 0.170 nm
NMP ratio: 0.987 % (154728 Pts)

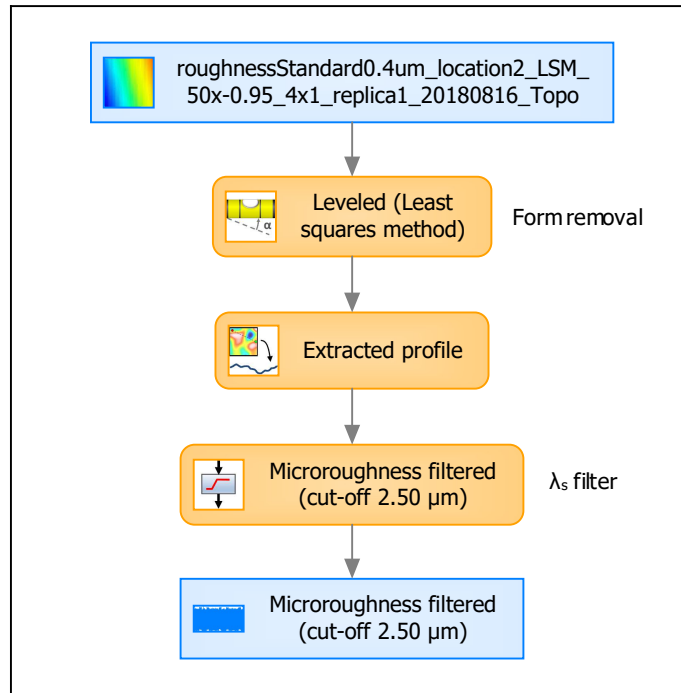


ISO 4287

Amplitude parameters - Roughness profile

Ra	0.419	μm	Gaussian filter, 0.8 mm	Arithmetic mean deviation of the roughness profile.
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Parameters	Value	Unit	Tolerance
Ra - Amplitude parameters - Roughness profile - ISO 4287	0.419	μm	0.400 μm ± 0.050 μm 



**Roughness standard $Ra = 0.4 \mu\text{m}$
50x objective, NA = 0.75 or 0.95, 4x1 tiles**

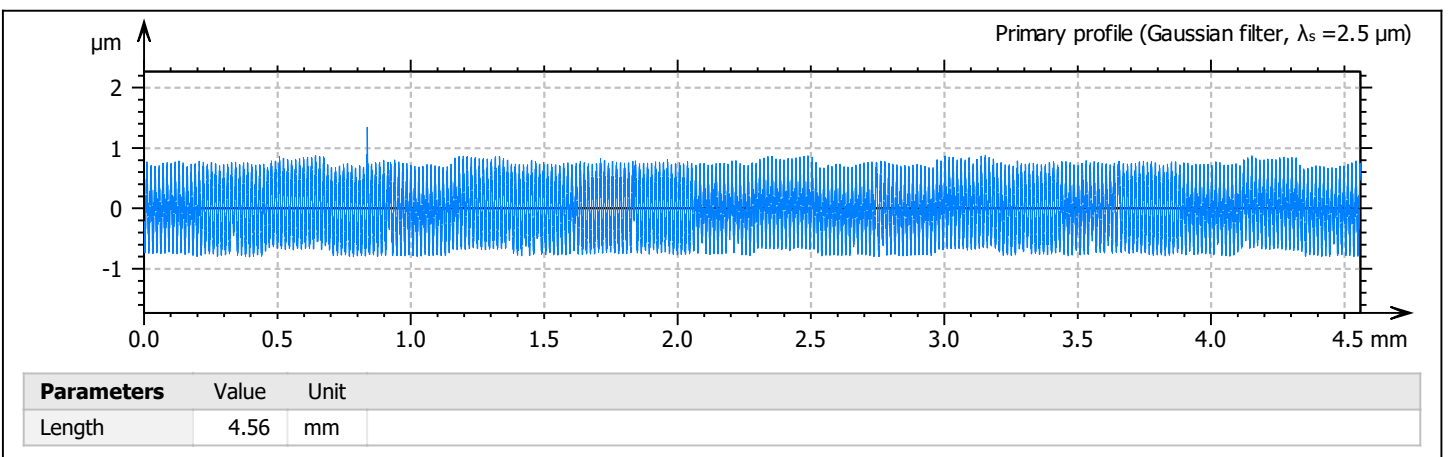
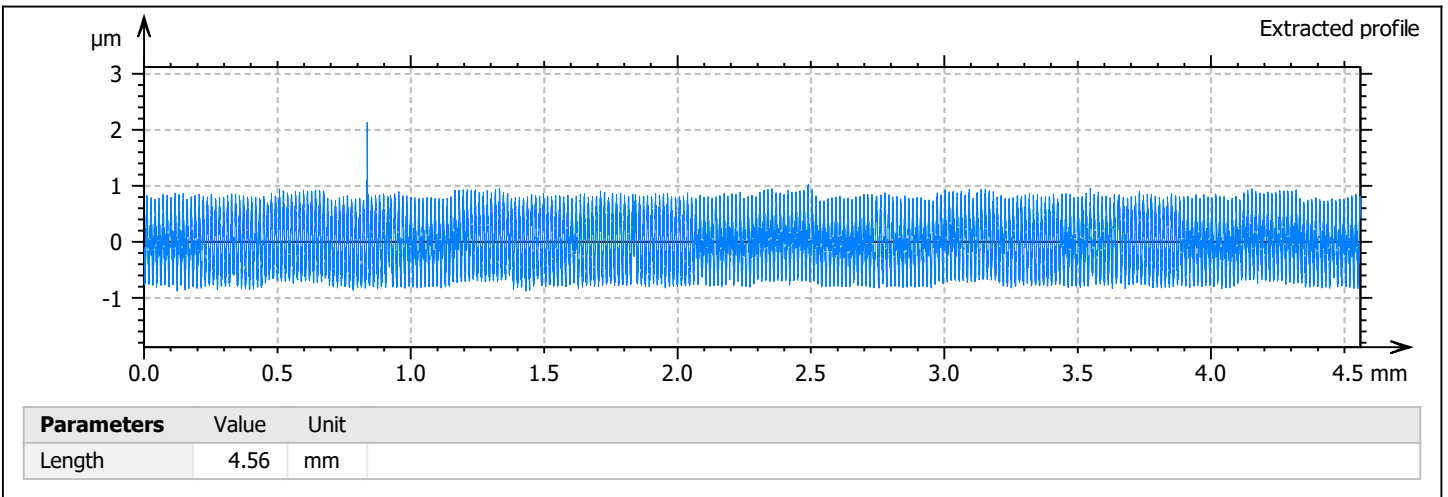
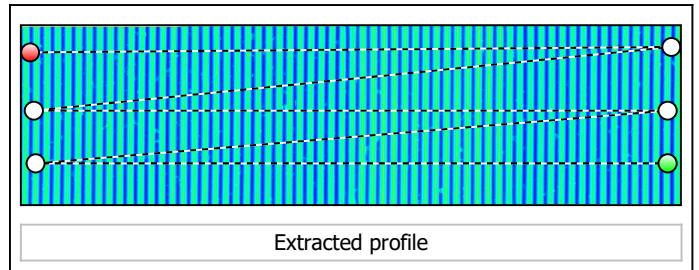
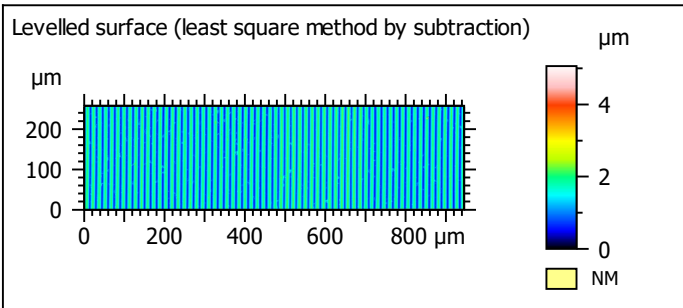
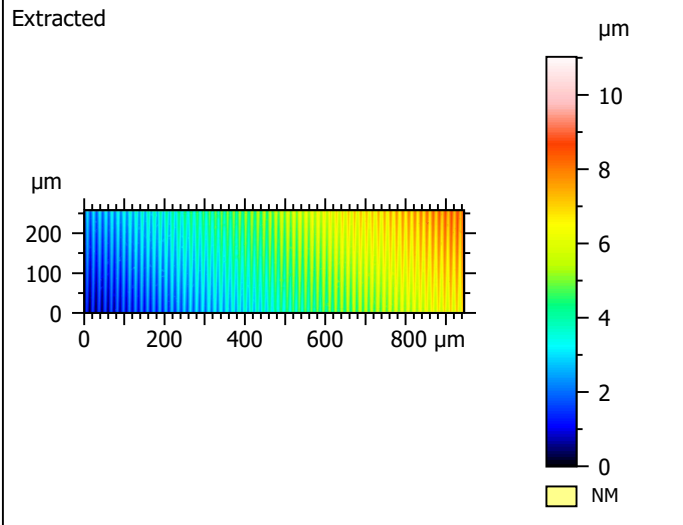
Identity card - roughnessStandard0.4um_locat...

Name: roughnessStandard0.4um_location2_LSM_50x-0.95_...
Created on: 8/16/2018 1:58:03 PM

Axis: X
Length: 945 μm
Size: 7577 points
Spacing: 0.125 μm

Axis: Y
Length: 258 μm
Size: 2069 points
Spacing: 0.125 μm

Axis: Z
Length: 11.0 μm
Size: 65531 digits
Spacing: 0.168 nm
NMP ratio: 0.988 % (154812 Pts)

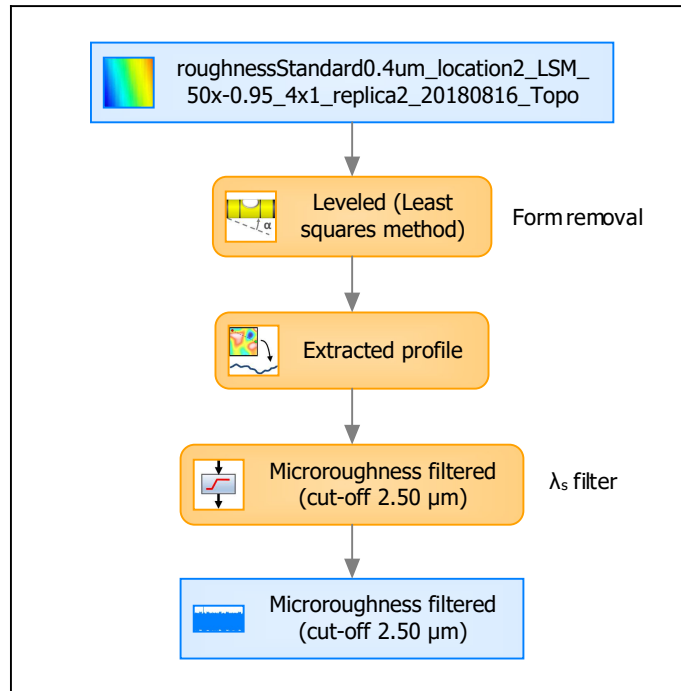


ISO 4287

Amplitude parameters - Roughness profile

Ra	0.420	μm	Gaussian filter, 0.8 mm	Arithmetic mean deviation of the roughness profile.
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Parameters	Value	Unit	Tolerance
Ra - Amplitude parameters - Roughness profile - ISO 4287	0.420	μm	0.400 μm ± 0.050 μm



**Roughness standard $Ra = 0.4 \mu\text{m}$
50x objective, NA = 0.75 or 0.95, 4x1 tiles**

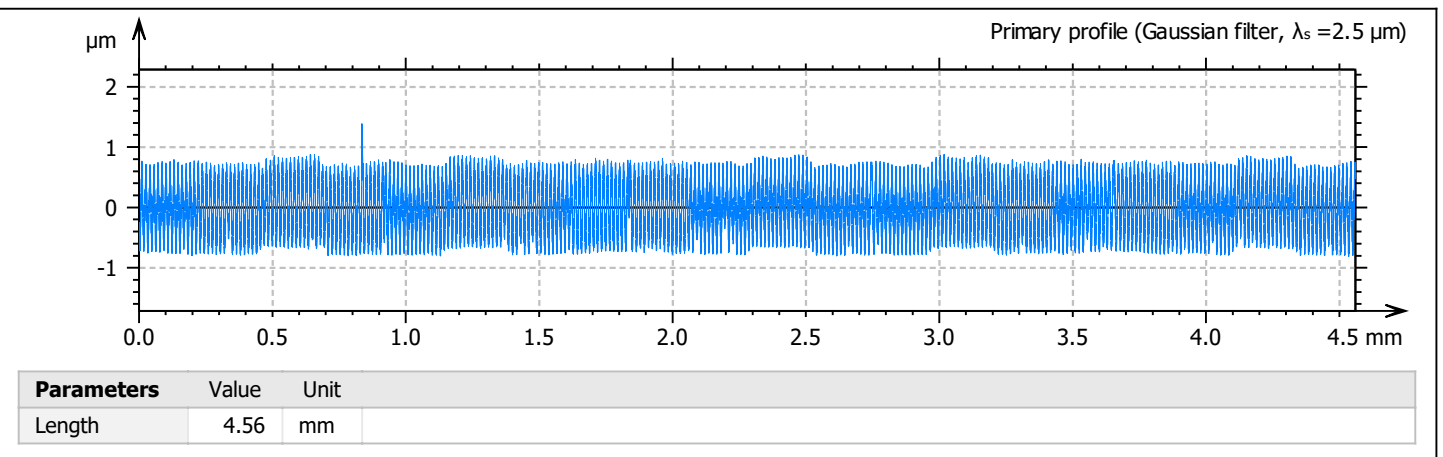
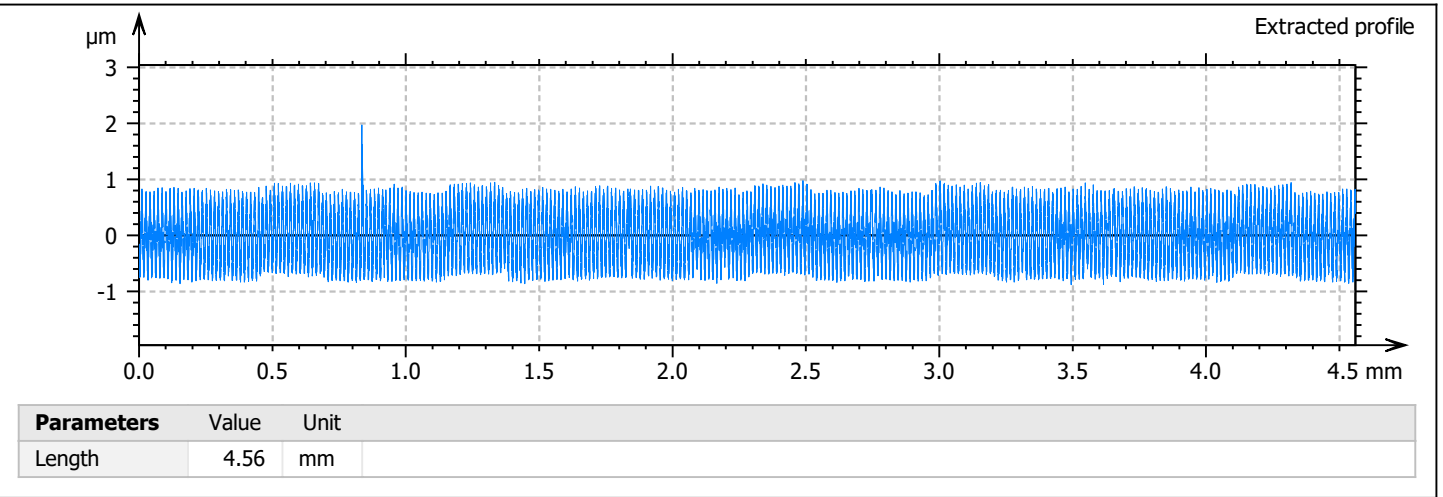
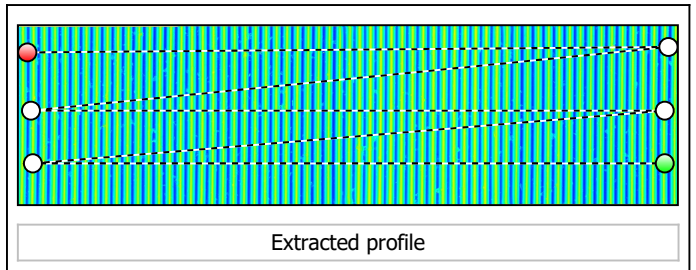
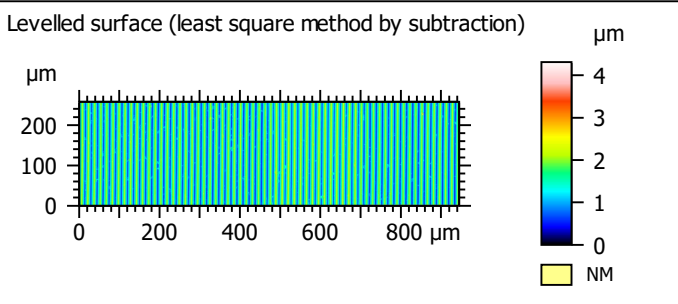
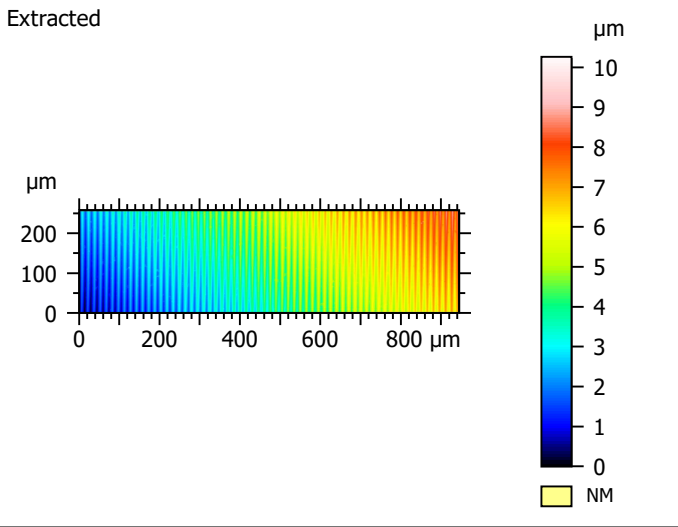
Identity card - roughnessStandard0.4um_locat...

Name: roughnessStandard0.4um_location2_LSM_50x-0.95_...
Created on: 8/16/2018 2:13:32 PM

Axis: X
Length: 945 μm
Size: 7574 points
Spacing: 0.125 μm

Axis: Y
Length: 258 μm
Size: 2069 points
Spacing: 0.125 μm

Axis: Z
Length: 10.3 μm
Size: 65532 digits
Spacing: 0.157 nm
NMP ratio: 0.987 % (154728 Pts)

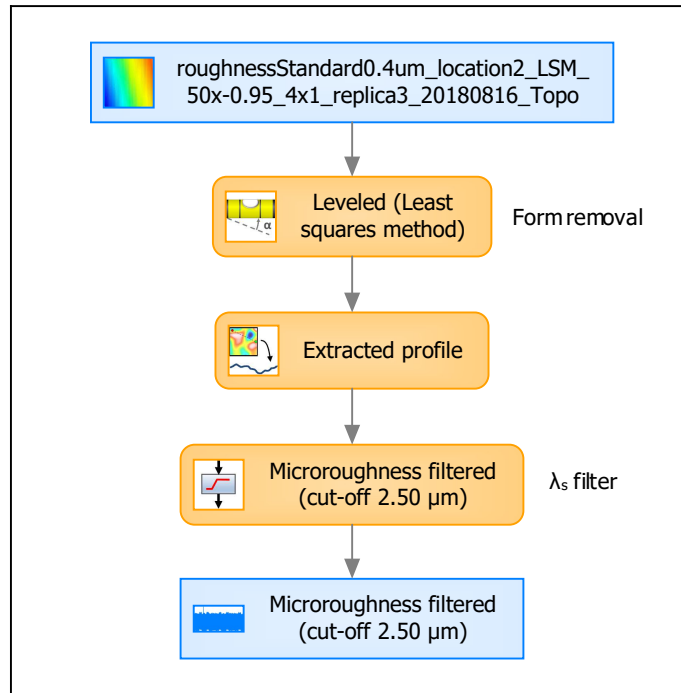


ISO 4287

Amplitude parameters - Roughness profile

Ra	0.418	μm	Gaussian filter, 0.8 mm	Arithmetic mean deviation of the roughness profile.
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Parameters	Value	Unit	Tolerance
Ra - Amplitude parameters - Roughness profile - ISO 4287	0.418	μm	0.400 μm ± 0.050 μm 



**Roughness standard $Ra = 0.4 \mu\text{m}$
50x objective, NA = 0.75 or 0.95, 4x1 tiles**

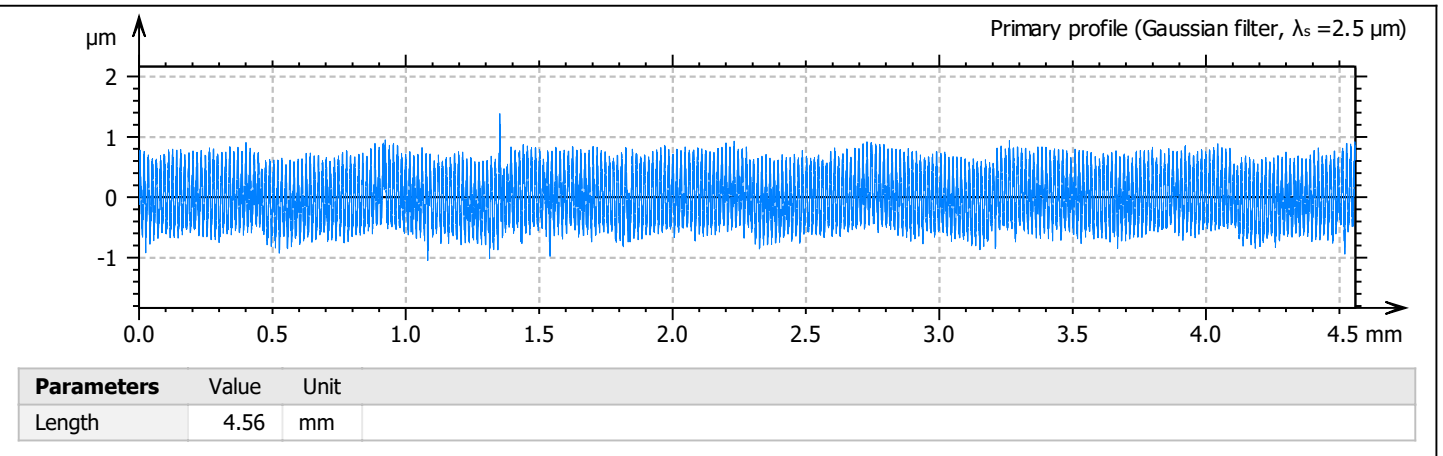
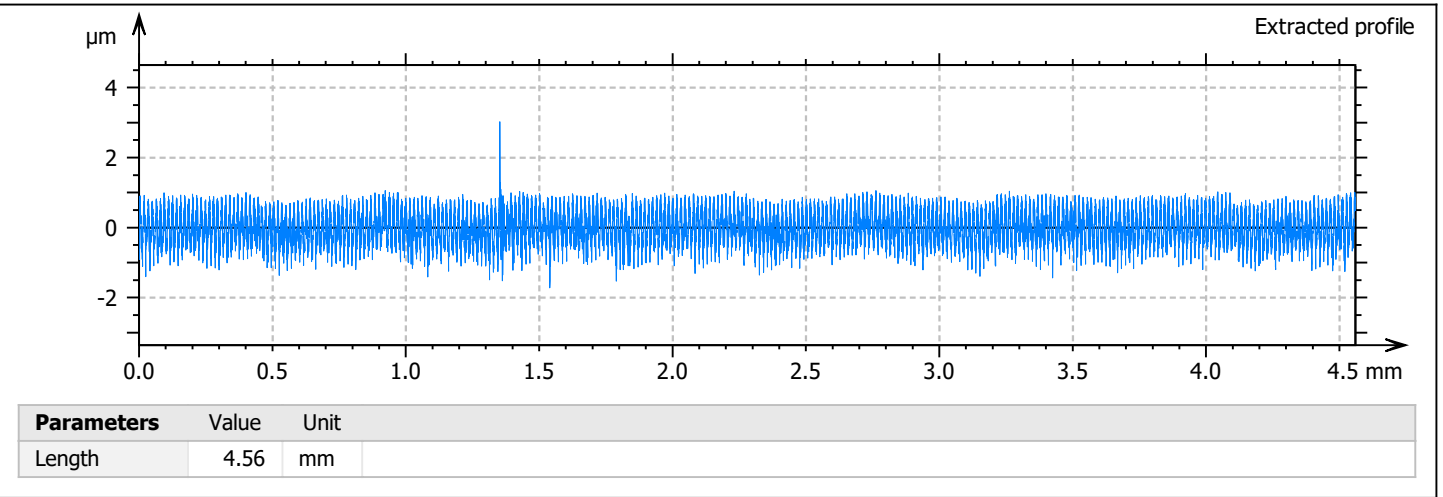
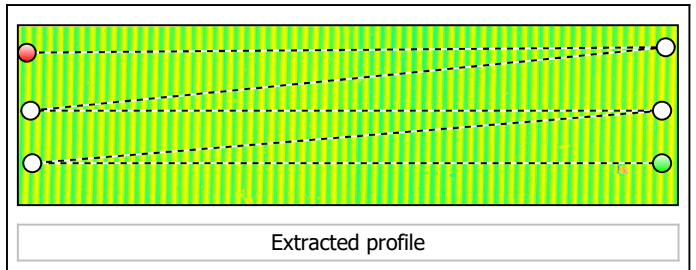
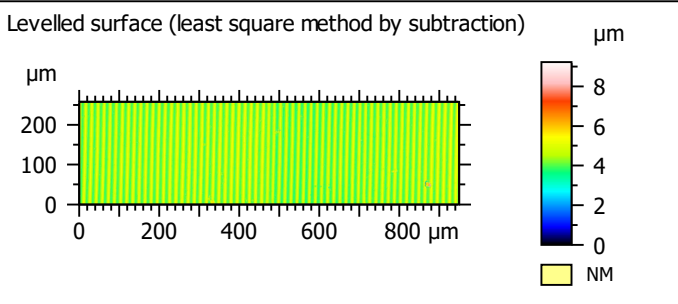
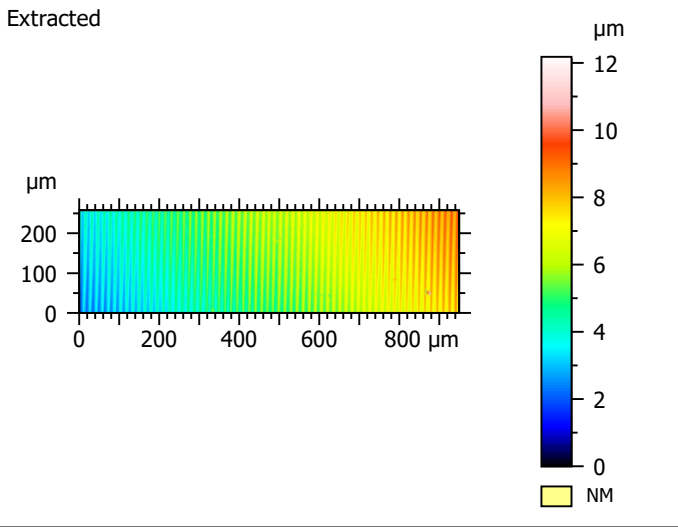
Identity card - roughnessStandard0.4um_locat...

Name: roughnessStandard0.4um_location3_LSM_50x-0.75_...
Created on: 8/17/2018 2:05:20 PM

Axis: X
Length: 950 μm
Size: 7611 points
Spacing: 0.125 μm

Axis: Y
Length: 258 μm
Size: 2069 points
Spacing: 0.125 μm

Axis: Z
Length: 12.2 μm
Size: 65531 digits
Spacing: 0.186 nm
NMP ratio: 0.989 % (155764 Pts)

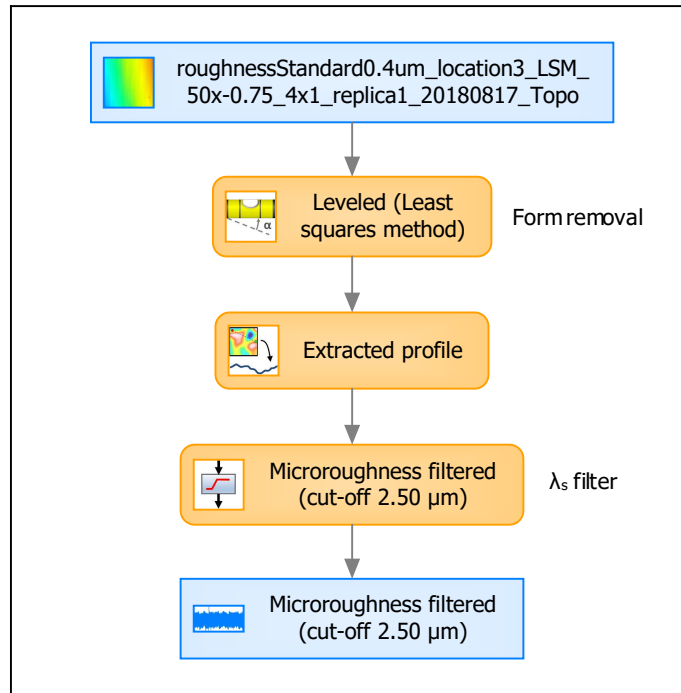


ISO 4287

Amplitude parameters - Roughness profile

Ra	0.397	µm	Gaussian filter, 0.8 mm	Arithmetic mean deviation of the roughness profile.
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Parameters	Value	Unit	Tolerance
Ra - Amplitude parameters - Roughness profile - ISO 4287	0.397	µm	0.400 µm ± 0.050 µm



**Roughness standard $Ra = 0.4 \mu\text{m}$
50x objective, NA = 0.75 or 0.95, 4x1 tiles**

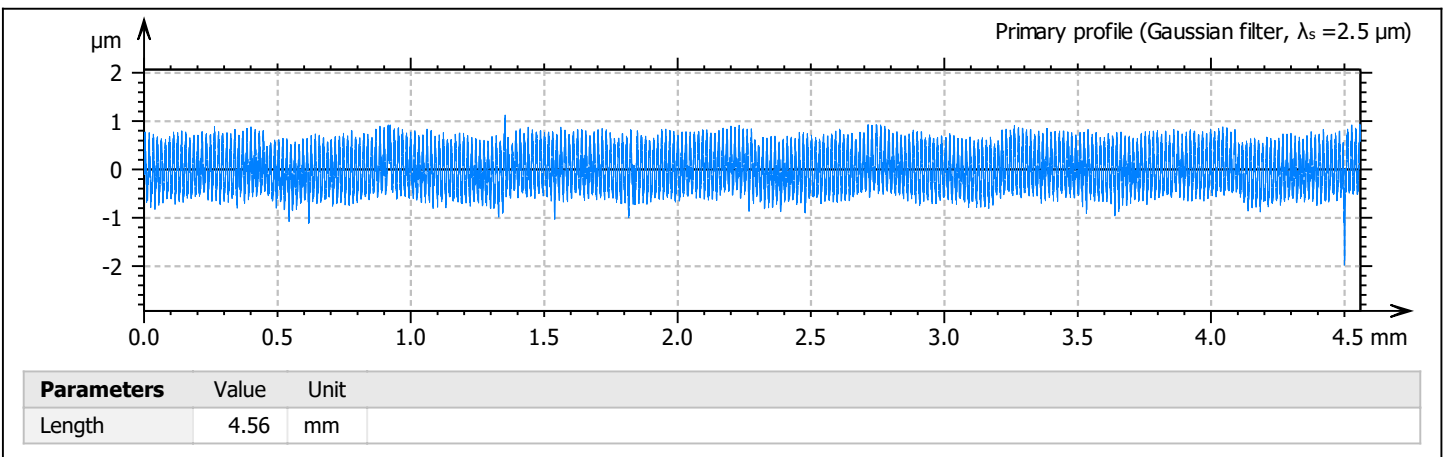
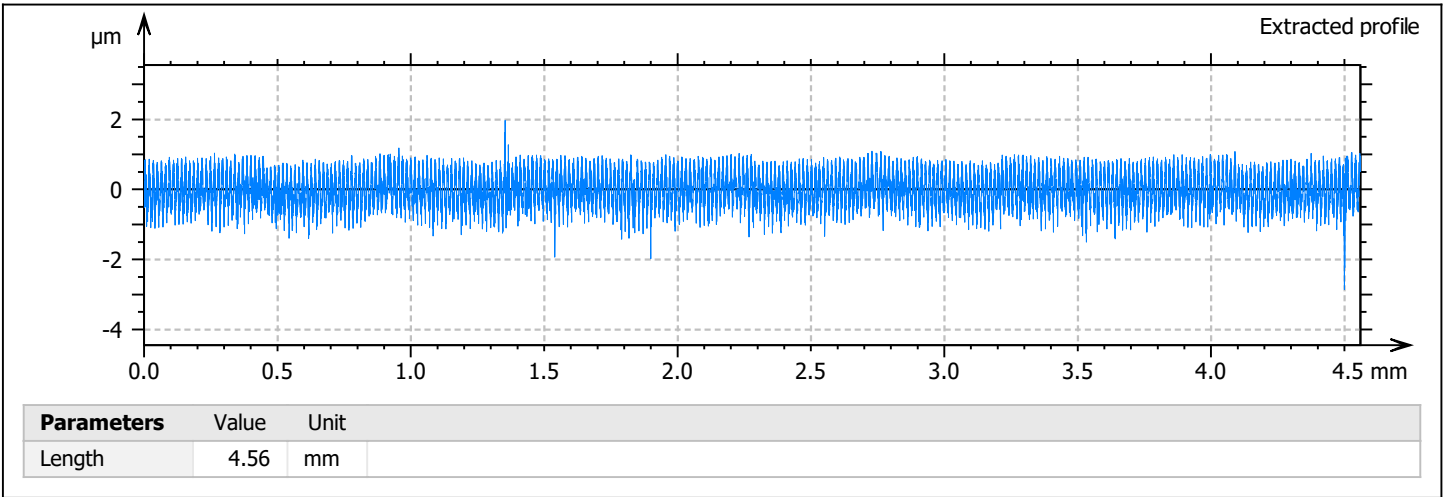
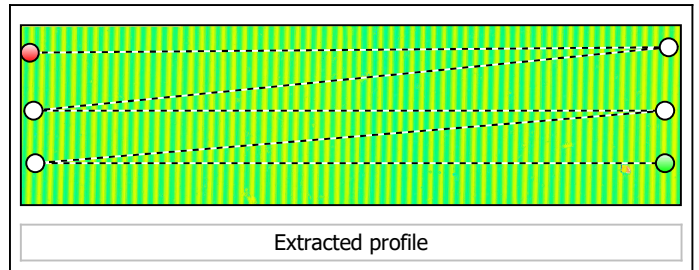
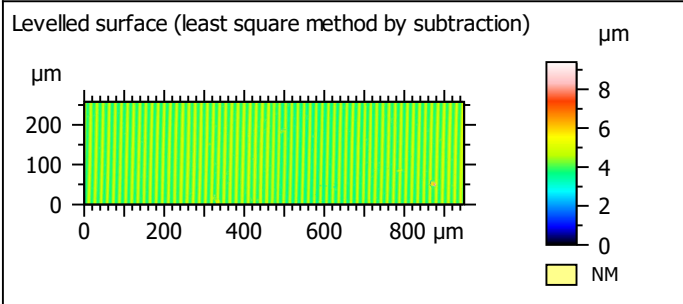
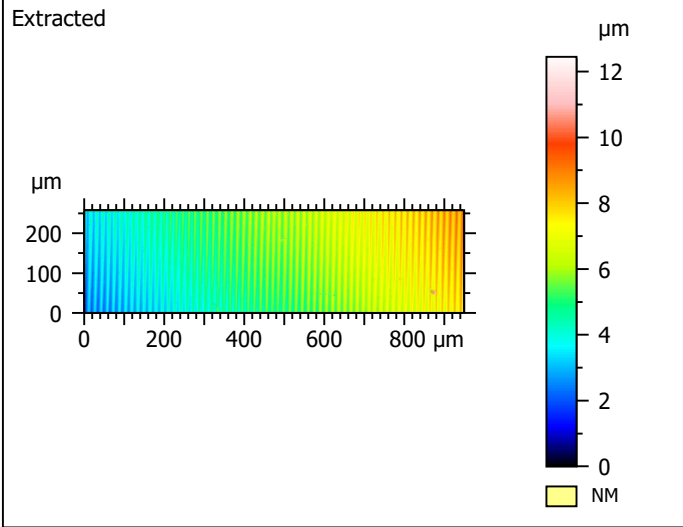
Identity card - roughnessStandard0.4um_locat...

Name: roughnessStandard0.4um_location3_LSM_50x-0.75_...
Created on: 8/17/2018 2:24:37 PM

Axis: X
Length: 950 μm
Size: 7611 points
Spacing: 0.125 μm

Axis: Y
Length: 258 μm
Size: 2069 points
Spacing: 0.125 μm


Axis: Z
Length: 12.4 μm
Size: 65532 digits
Spacing: 0.190 nm
NMP ratio: 0.989 % (155764 Pts)

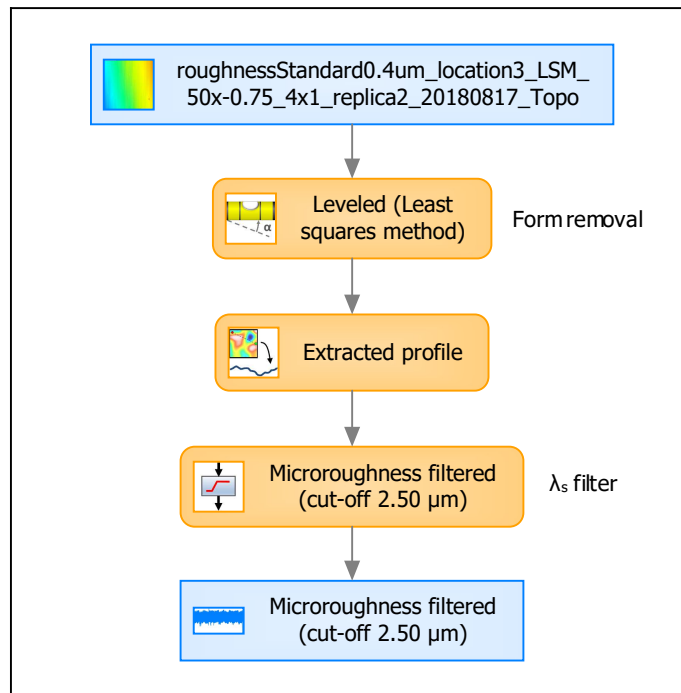


ISO 4287

Amplitude parameters - Roughness profile

Ra	0.398	μm	Gaussian filter, 0.8 mm	Arithmetic mean deviation of the roughness profile.
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Parameters	Value	Unit	Tolerance
Ra - Amplitude parameters - Roughness profile - ISO 4287	0.398	μm	0.400 μm ± 0.050 μm 



**Roughness standard $Ra = 0.4 \mu\text{m}$
50x objective, NA = 0.75 or 0.95, 4x1 tiles**

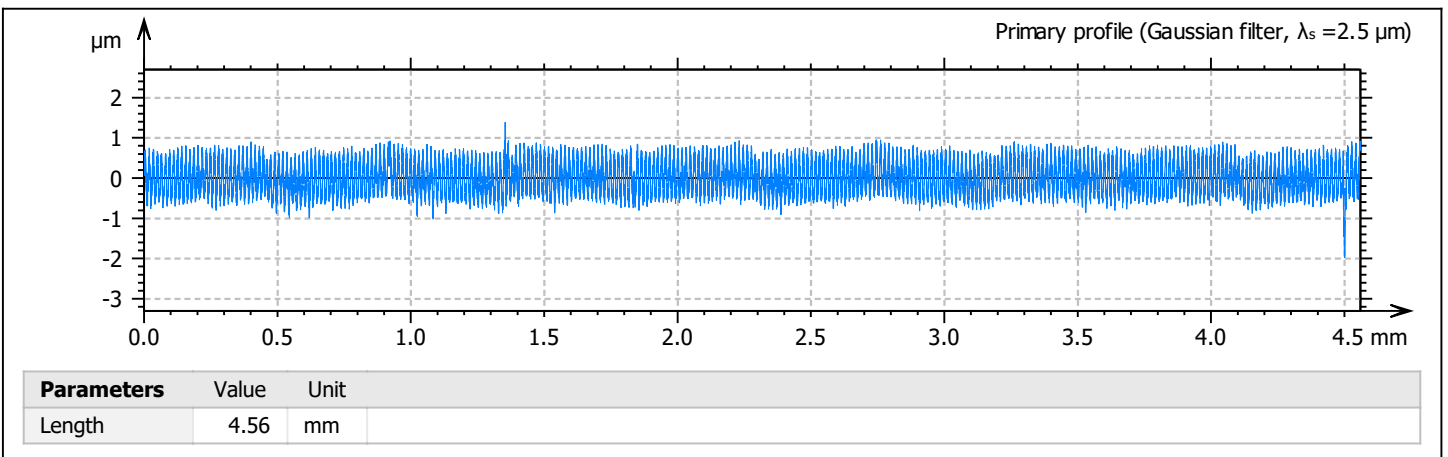
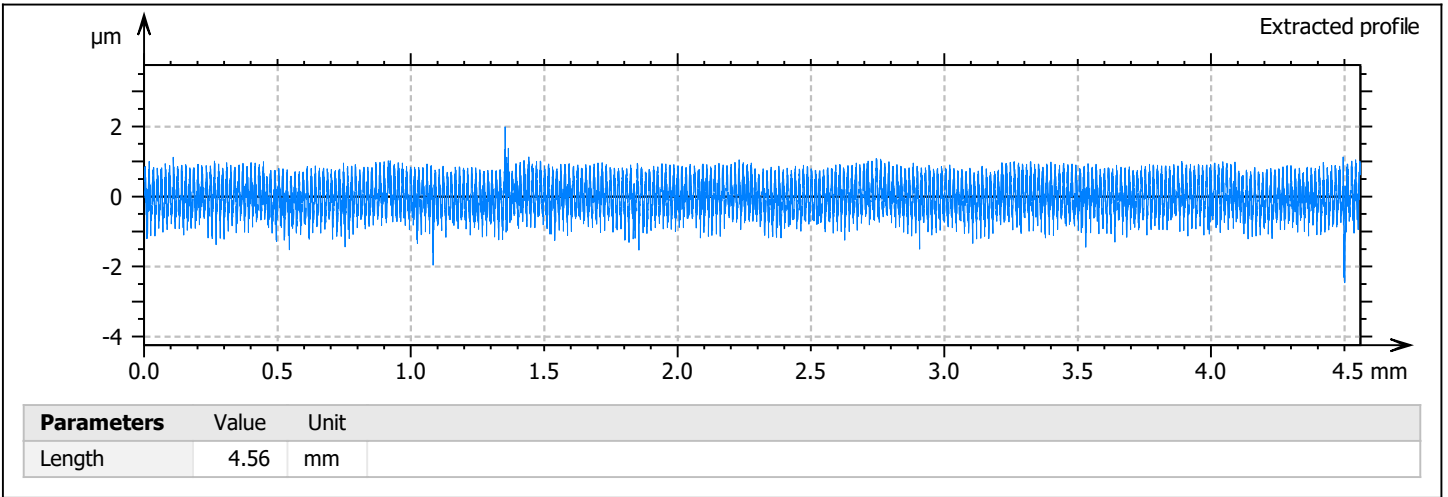
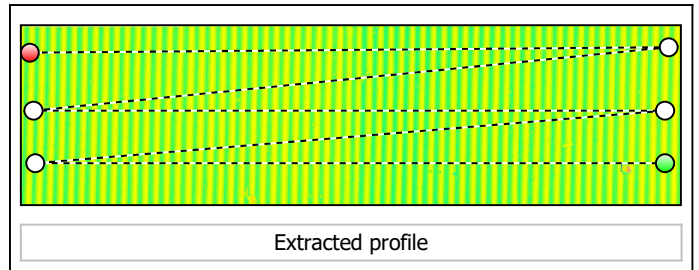
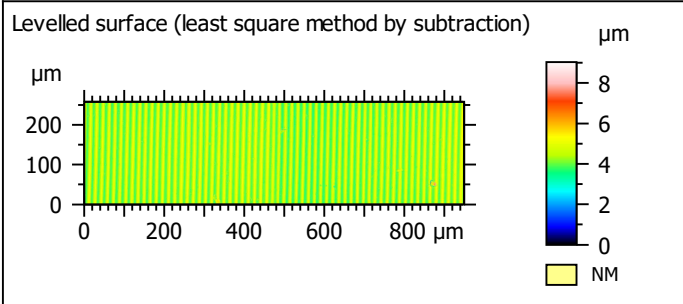
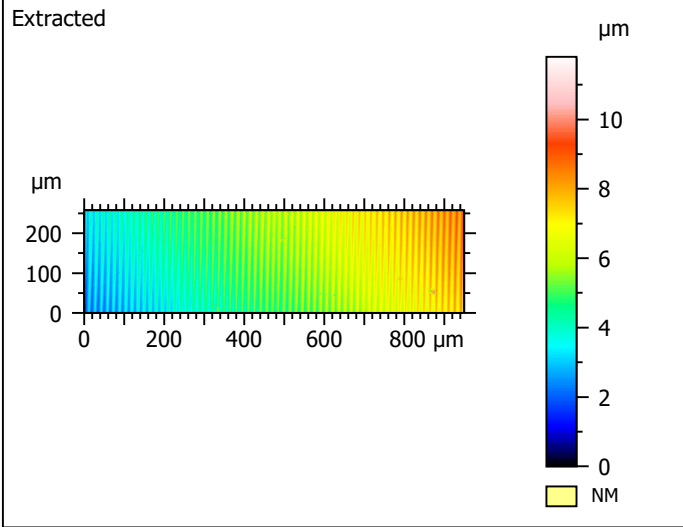
Identity card - roughnessStandard0.4um_locat...

Name: roughnessStandard0.4um_location3_LSM_50x-0.75_...
Created on: 8/17/2018 2:41:54 PM

Axis: X
Length: 950 μm
Size: 7611 points
Spacing: 0.125 μm

Axis: Y
Length: 258 μm
Size: 2069 points
Spacing: 0.125 μm


Axis: Z
Length: 11.8 μm
Size: 65532 digits
Spacing: 0.180 nm
NMP ratio: 0.989 % (155764 Pts)

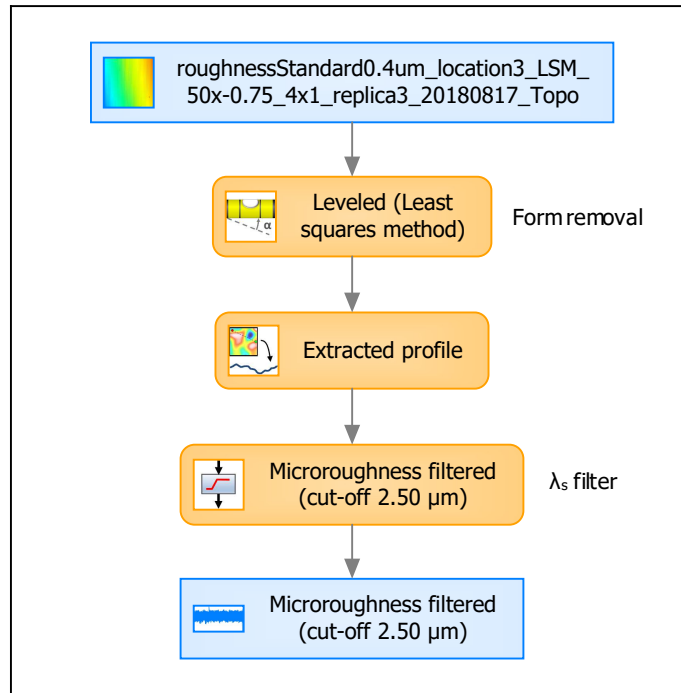


ISO 4287

Amplitude parameters - Roughness profile

Ra	0.398	µm	Gaussian filter, 0.8 mm	Arithmetic mean deviation of the roughness profile.
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Parameters	Value	Unit	Tolerance
Ra - Amplitude parameters - Roughness profile - ISO 4287	0.398	µm	0.400 µm ± 0.050 µm 



**Roughness standard $Ra = 0.4 \mu\text{m}$
50x objective, NA = 0.75 or 0.95, 4x1 tiles**

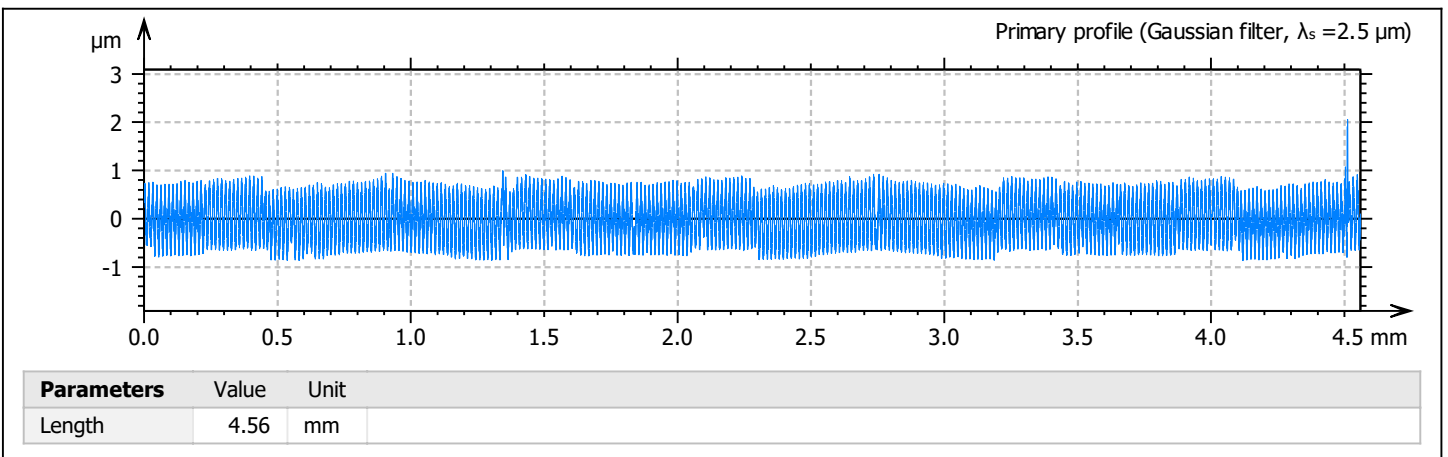
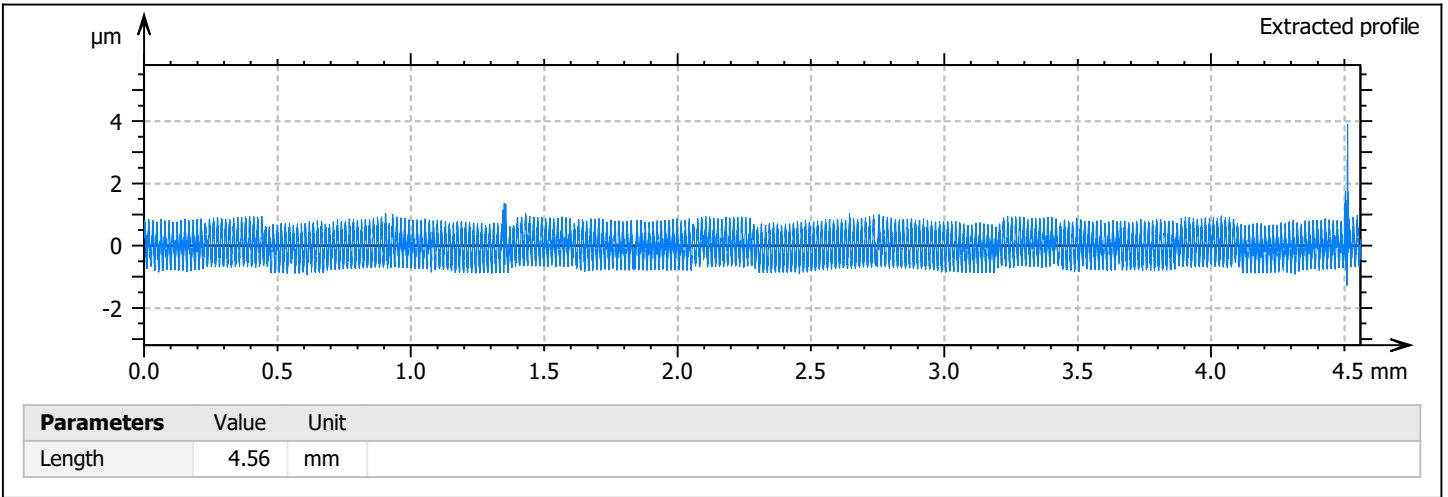
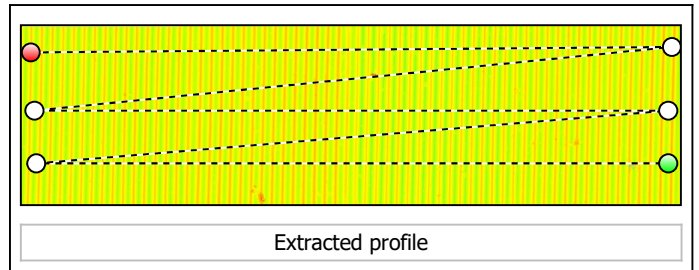
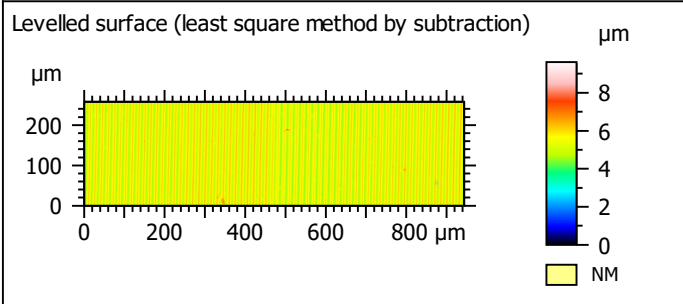
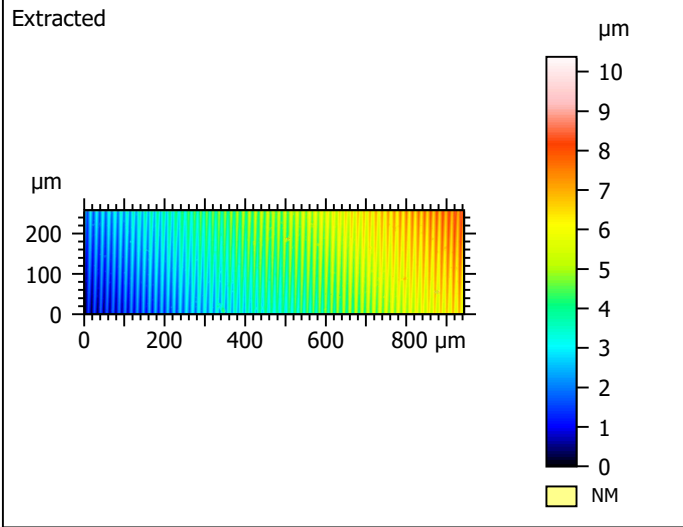
Identity card - roughnessStandard0.4um_locat...

Name: roughnessStandard0.4um_location3_LSM_50x-0.95_...
Created on: 8/17/2018 1:55:40 PM

Axis: X
Length: 944 μm
Size: 7563 points
Spacing: 0.125 μm

Axis: Y
Length: 258 μm
Size: 2069 points
Spacing: 0.125 μm

Axis: Z
Length: 10.4 μm
Size: 65531 digits
Spacing: 0.158 nm
NMP ratio: 0.987 % (154420 Pts)

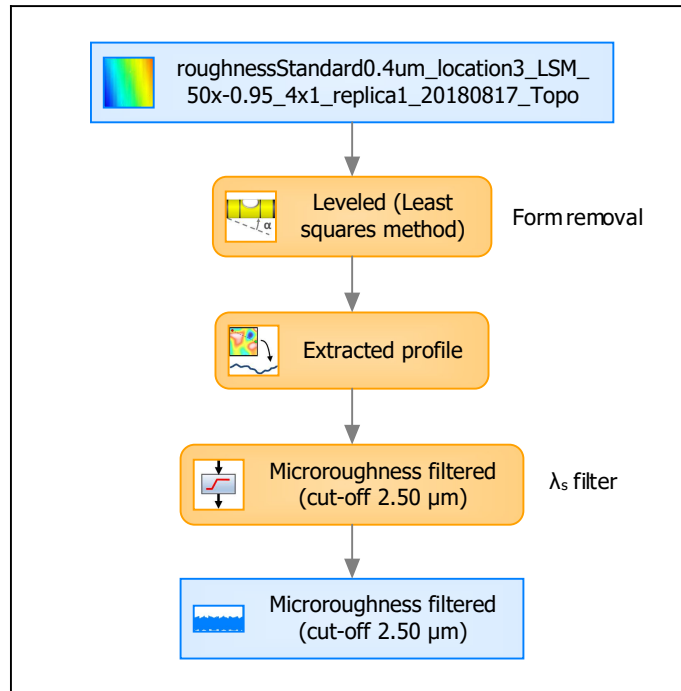


ISO 4287

Amplitude parameters - Roughness profile

Ra	0.420	μm	Gaussian filter, 0.8 mm	Arithmetic mean deviation of the roughness profile.
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Parameters	Value	Unit	Tolerance
Ra - Amplitude parameters - Roughness profile - ISO 4287	0.420	μm	0.400 μm ± 0.050 μm



**Roughness standard $Ra = 0.4 \mu\text{m}$
50x objective, NA = 0.75 or 0.95, 4x1 tiles**

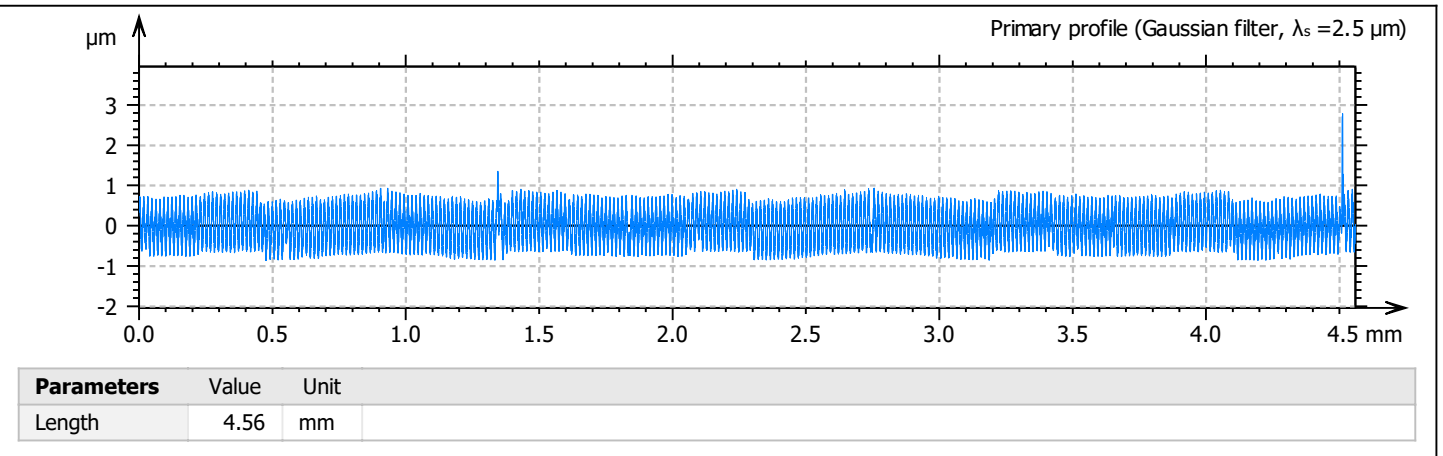
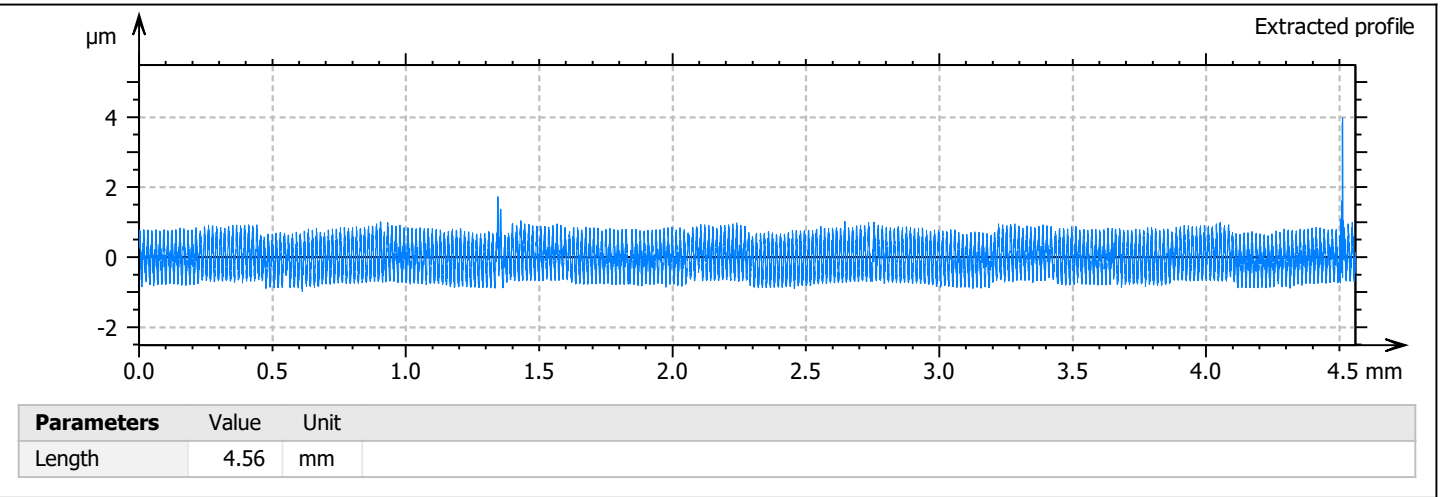
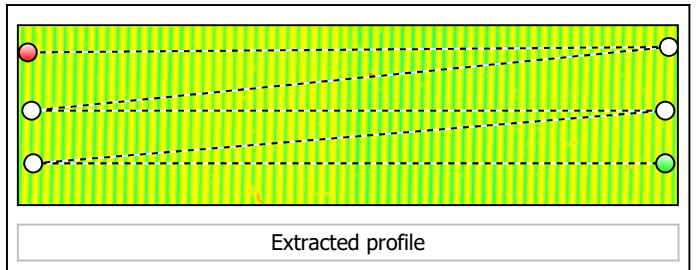
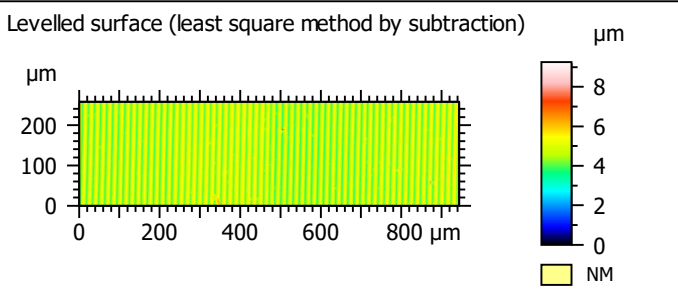
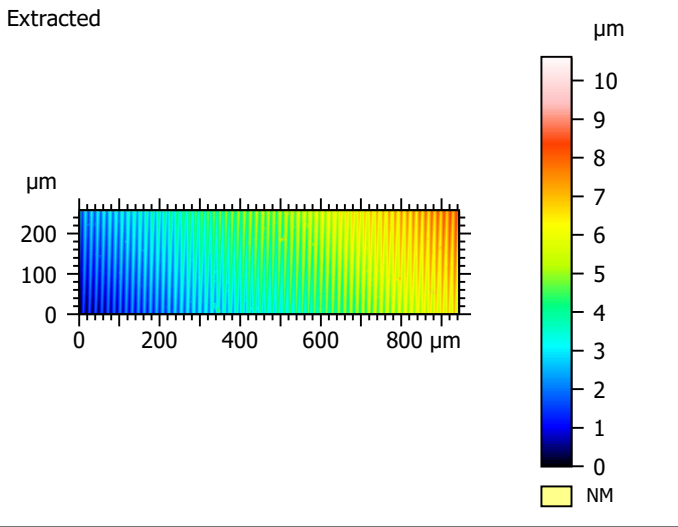
Identity card - roughnessStandard0.4um_locat...

Name: roughnessStandard0.4um_location3_LSM_50x-0.95_...
Created on: 8/17/2018 2:14:19 PM

Axis: X
Length: 944 μm
Size: 7563 points
Spacing: 0.125 μm

Axis: Y
Length: 258 μm
Size: 2069 points
Spacing: 0.125 μm

Axis: Z
Length: 10.6 μm
Size: 65532 digits
Spacing: 0.162 nm
NMP ratio: 0.987 % (154420 Pts)

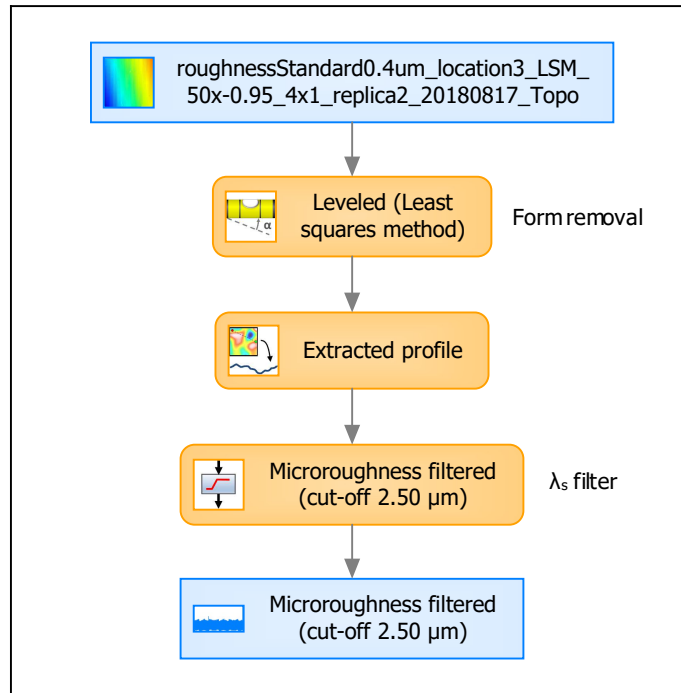


ISO 4287

Amplitude parameters - Roughness profile

Ra	0.418	μm	Gaussian filter, 0.8 mm	Arithmetic mean deviation of the roughness profile.
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Parameters	Value	Unit	Tolerance
Ra - Amplitude parameters - Roughness profile - ISO 4287	0.418	μm	0.400 μm ± 0.050 μm 



**Roughness standard $Ra = 0.4 \mu\text{m}$
50x objective, NA = 0.75 or 0.95, 4x1 tiles**

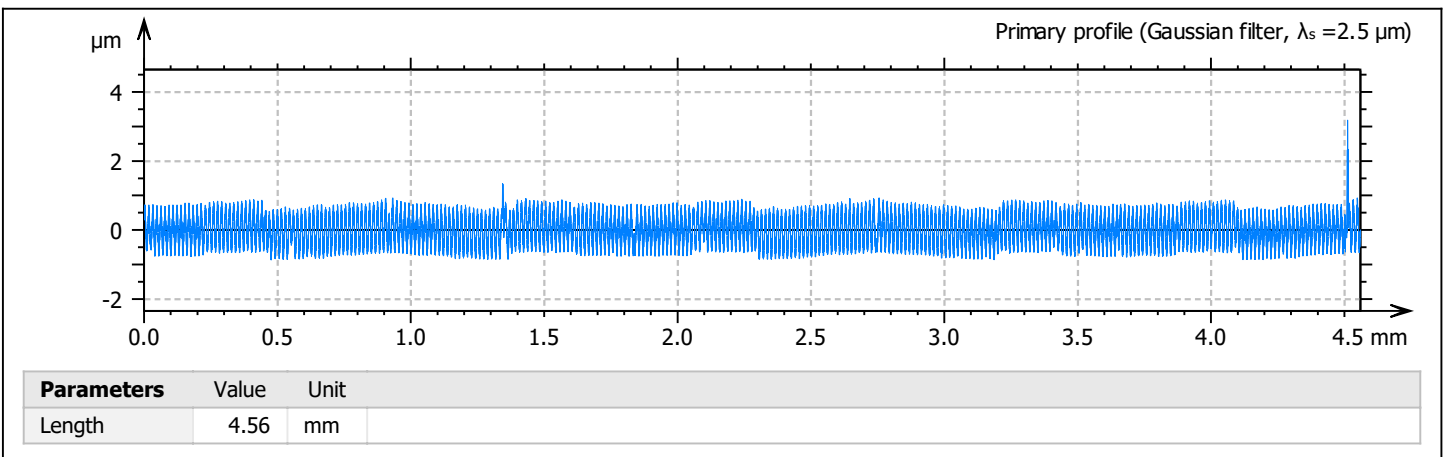
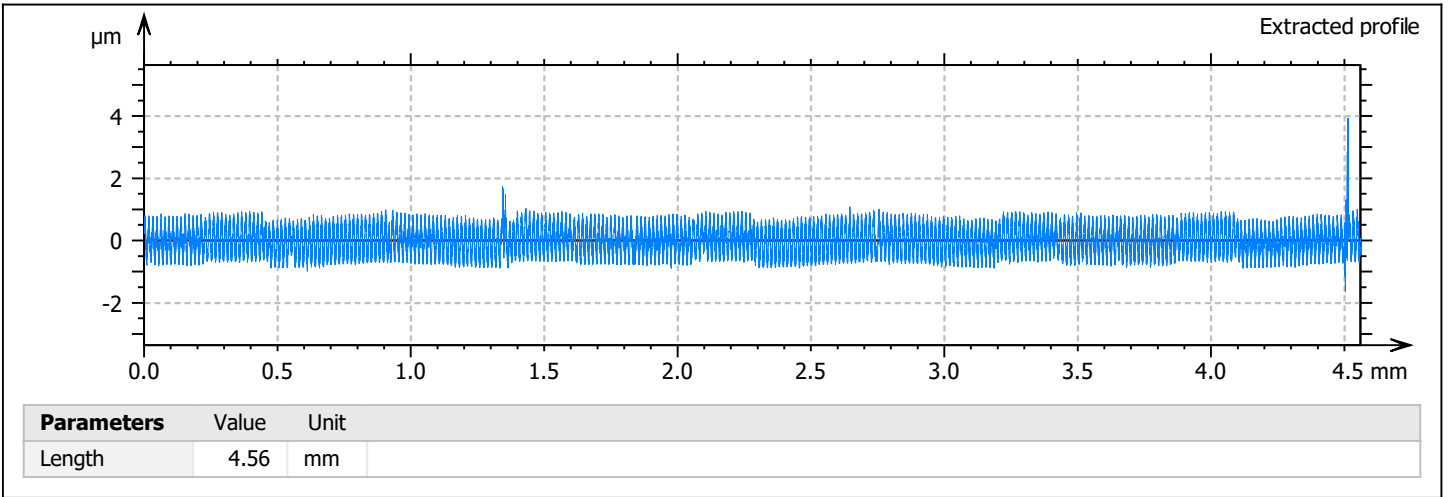
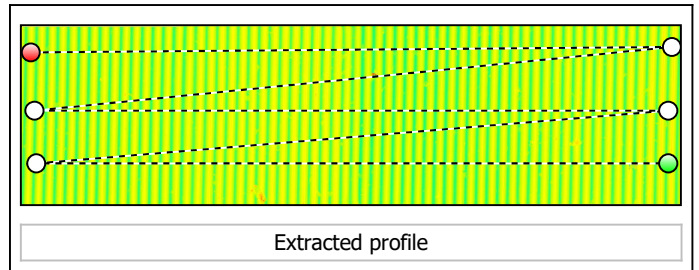
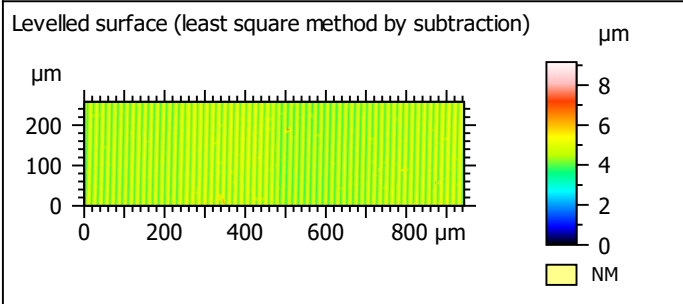
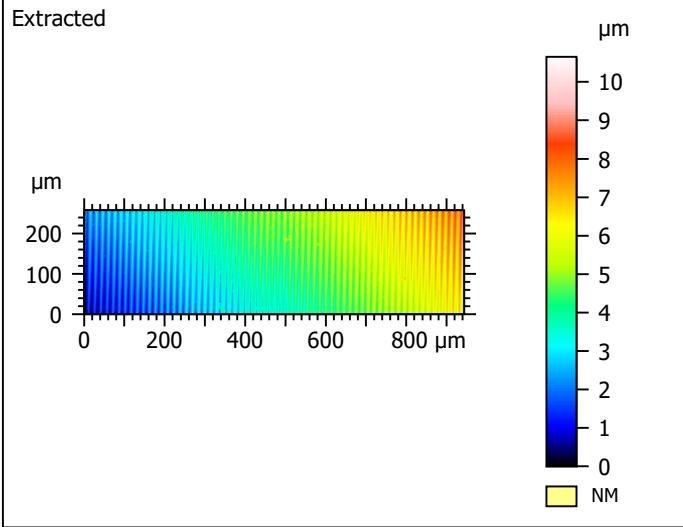
Identity card - roughnessStandard0.4um_locat...

Name: roughnessStandard0.4um_location3_LSM_50x-0.95_...
Created on: 8/17/2018 2:33:55 PM

Axis: X
Length: 944 μm
Size: 7563 points
Spacing: 0.125 μm

Axis: Y
Length: 258 μm
Size: 2069 points
Spacing: 0.125 μm

Axis: Z
Length: 10.7 μm
Size: 65532 digits
Spacing: 0.163 nm
NMP ratio: 0.987 % (154420 Pts)



ISO 4287

Amplitude parameters - Roughness profile

Ra	0.418	μm	Gaussian filter, 0.8 mm	Arithmetic mean deviation of the roughness profile.
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Parameters	Value	Unit	Tolerance
Ra - Amplitude parameters - Roughness profile - ISO 4287	0.418	μm	0.400 μm ± 0.050 μm

