

Reflectivity measurement - before, after CO2 cleaning INT primary mirror

Equipment:	uscan reflectometer		
Mirror:	INT Primary mirror		
Person:	Neil O'Mahony		
Date:	20090907		
Lambda (micron):	0.67		
Incident angle (degree):	25		
BW (Bandwidth) limits:	1	0.1	

INT mirror - before CO2

No#	BPDF - 0°,0° detector position	BPDF - 50°,180° detector position	reflectivity	rms (Ångstrom)	time	date
1	1.13E-02	5.68E-03	0.812	79	14:01:30	9/7/2009
2	1.13E-02	5.67E-03	0.81	79.1	14:01:36	9/7/2009
3	7.27E-03	3.69E-03	0.826	62.9	14:01:50	9/7/2009
4	7.25E-03	3.68E-03	0.826	62.8	14:01:55	9/7/2009
5	1.01E-02	5.17E-03	0.805	75.1	14:02:04	9/7/2009
6	1.06E-02	5.60E-03	0.779	78	14:02:09	9/7/2009
7	1.26E-02	6.74E-03	0.807	83.5	14:02:20	9/7/2009
8	1.26E-02	6.70E-03	0.805	83.8	14:02:24	9/7/2009
9	9.23E-03	5.55E-03	0.812	71	14:02:33	9/7/2009
10	9.18E-03	5.55E-03	0.818	70.6	14:02:38	9/7/2009
11	1.08E-02	5.98E-03	0.811	77.1	14:02:49	9/7/2009
12	1.08E-02	5.99E-03	0.811	77	14:02:53	9/7/2009
13	1.69E-02	1.44E-02	0.773	98.3	14:03:02	9/7/2009
14	1.69E-02	1.44E-02	0.774	98	14:03:07	9/7/2009
15	9.76E-03	4.94E-03	0.837	72.4	14:03:21	9/7/2009
16	9.52E-03	5.11E-03	0.816	72.2	14:03:26	9/7/2009
17	1.11E-02	5.44E-03	0.816	78.1	14:03:45	9/7/2009
average	1.100E-02	6.485E-03	0.808	77.582		
standard dev	2.666E-03	3.078E-03	0.018	9.725		

INT mirror - after CO2

No#	BPDF - 0°,0° detector position	BPDF - 50°,180° detector position	reflectivity	rms (Ångstrom)	time	date
1	7.60E-03	2.78E-03	0.828	65.8	14:39:26	9/7/2009
2	6.71E-03	2.48E-03	0.83	61.7	14:39:33	9/7/2009
3	6.01E-03	2.19E-03	0.832	58.5	14:39:41	9/7/2009
4	6.99E-03	2.63E-03	0.831	62.9	14:39:49	9/7/2009
5	6.84E-03	2.33E-03	0.804	63.9	14:39:57	9/7/2009
6	7.35E-03	2.44E-03	0.829	65.5	14:40:10	9/7/2009
7	4.71E-03	1.75E-03	0.829	51.7	14:40:17	9/7/2009
8	9.62E-03	3.99E-03	0.818	73.7	14:40:23	9/7/2009
9	6.72E-03	2.36E-03	0.829	62.2	14:40:35	9/7/2009
10	4.78E-03	1.59E-03	0.841	52.4	14:40:42	9/7/2009
11	4.83E-03	1.59E-03	0.841	52.7	14:40:46	9/7/2009
12	9.02E-03	3.90E-03	0.823	70.9	14:41:02	9/7/2009
14	7.94E-03	4.03E-03	0.943	61.5	12:55:33	9/11/2009
15	7.98E-03	4.04E-03	0.941	61.7	12:55:40	9/11/2009
16	8.01E-03	4.06E-03	0.941	61.8	12:55:46	9/11/2009
17	6.06E-03	3.44E-03	0.923	54	12:55:57	9/11/2009

18	6.08E-03	3.45E-03	0.923	54.2	12:56:02	9/11/2009
19	6.10E-03	3.45E-03	0.924	54.2	12:56:08	9/11/2009
20	3.29E-03	2.05E-03	0.947	39.2	12:56:24	9/11/2009
21	3.30E-03	2.06E-03	0.948	39.3	12:56:30	9/11/2009
22	3.32E-03	2.06E-03	0.948	39.4	12:56:36	9/11/2009
23	2.60E-03	1.84E-04	0.855	80	12:57:54	9/11/2009
24	2.60E-03	1.71E-04	0.855	86.3	12:58:02	9/11/2009
25	2.61E-03	1.69E-04	0.855	87.7	12:58:08	9/11/2009
26	5.47E-04	1.18E-04	0.846	19.2	12:58:23	9/11/2009
27	5.47E-04	1.19E-04	0.848	19.1	12:58:29	9/11/2009
28	5.46E-04	1.20E-04	0.85	19	12:58:35	9/11/2009
29	6.43E-04	1.15E-04	0.875	21.6	12:59:04	9/11/2009
30	6.41E-04	1.15E-04	0.877	21.6	12:59:13	9/11/2009
31	6.42E-04	1.15E-04	0.876	21.6	12:59:20	9/11/2009
32	5.60E-04	7.65E-05	0.867	22.7	13:00:31	9/11/2009
33	5.68E-04	7.86E-05	0.868	22.7	13:00:43	9/11/2009
average	4.554E-03	1.876E-03	0.870	50.897		
standard dev	2.948E-03	1.467E-03	0.046	20.801		

Notes:

RMS - Root Mean Square surface roughness in Angstrom,

BSDF - Bidirectional scatter distribution function, it is equal to the scattered power per unit solid angle