

## Reflectivity measurement - WHT Primary, before and after CO2

Equipment:	uscan reflectometer		
Mirror:	<b>WHT Primary mirror</b>		
Person:	Neil O'Mahony, Tibor Agocs		
Date:	10/02/2009		
Lambda (micron):	0.67		
Incident angle (degree):	25		
BW (Bandwidth) limits:	1	0.1	

### WHT Primary mirror before CO2

No#	BPDF - 0°,0° detector position	BPDF - 50°,180° detector position	reflectivity	rms (Ångstrom)	time	date
9	8.92E-03	2.46E-03	0.787	76.1	09:54:04	02/10/2009
10	9.00E-03	2.48E-03	0.801	75.8	09:54:09	02/10/2009
11	9.04E-03	2.49E-03	0.808	75.6	09:54:13	02/10/2009
12	3.42E-03	1.97E-03	0.818	43.1	09:54:21	02/10/2009
13	3.54E-03	2.00E-03	0.815	43.9	09:54:26	02/10/2009
14	3.54E-03	2.00E-03	0.815	44	09:54:31	02/10/2009
15	4.31E-03	1.45E-03	0.81	50.6	09:54:41	02/10/2009
16	4.29E-03	1.47E-03	0.812	50.3	09:54:46	02/10/2009
17	4.30E-03	1.48E-03	0.81	50.4	09:54:50	02/10/2009
18	3.82E-03	1.79E-03	0.834	45.6	09:54:58	02/10/2009
19	3.82E-03	1.79E-03	0.837	45.5	09:55:02	02/10/2009
<b>average</b>	<b>5.271E-03</b>	<b>1.943E-03</b>	<b>0.813</b>	<b>54.627</b>		
<b>standard dev</b>	<b>2.407E-03</b>	<b>3.991E-04</b>	<b>0.014</b>	<b>13.884</b>		

### WHT Primary mirror after CO2

No#	BPDF - 0°,0° detector position	BPDF - 50°,180° detector position	reflectivity	rms (Ångstrom)	time	date
20	1.75E-03	2.74E-04	0.827	38.6	10:13:53	02/10/2009
21	1.76E-03	2.72E-04	0.828	38.9	10:13:57	02/10/2009
22	1.76E-03	2.71E-04	0.829	38.8	10:14:01	02/10/2009
23	1.96E-03	4.08E-04	0.818	37.2	10:14:09	02/10/2009
24	1.95E-03	4.07E-04	0.816	37.2	10:14:13	02/10/2009
25	1.95E-03	4.06E-04	0.815	37.3	10:14:17	02/10/2009
26	1.88E-03	2.34E-04	0.823	44.7	10:14:29	02/10/2009
27	5.06E-03	9.68E-04	0.808	61.7	10:16:45	02/10/2009
28	5.05E-03	9.66E-04	0.809	61.7	10:16:50	02/10/2009
29	5.05E-03	9.66E-04	0.809	61.7	10:16:54	02/10/2009
30	2.88E-03	8.65E-04	0.816	41.9	10:17:03	02/10/2009
31	2.88E-03	8.65E-04	0.816	41.9	10:17:08	02/10/2009
32	2.88E-03	8.65E-04	0.815	41.9	10:17:13	02/10/2009
33	3.15E-03	9.52E-04	0.805	44.1	10:17:20	02/10/2009
34	3.15E-03	9.52E-04	0.804	44.1	10:17:25	02/10/2009
35	3.15E-03	9.51E-04	0.804	44.1	10:17:29	02/10/2009
36	2.41E-03	4.01E-04	0.819	44.4	10:17:39	02/10/2009
37	2.41E-03	4.07E-04	0.819	44.2	10:17:44	02/10/2009
38	2.41E-03	4.08E-04	0.819	44.2	10:17:48	02/10/2009
39	1.67E-03	2.37E-04	0.853	38.8	10:17:56	02/10/2009
40	1.66E-03	2.35E-04	0.841	38.9	10:18:00	02/10/2009
41	1.66E-03	2.37E-04	0.833	38.9	10:18:05	02/10/2009

<b>average</b>	<b>2.658E-03</b>	<b>5.702E-04</b>	<b>0.819</b>	<b>43.873</b>		
<b>standard dev</b>	<b>1.108E-03</b>	<b>3.119E-04</b>	<b>0.012</b>	<b>7.722</b>		

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