SMS Reflectivity meas. of WHT Primary mirror before and after soap+water wash, air dry, 21 Aug
Measurements are usually in pairs to confirm repeatability.

Lambda	0.67	micron	
Incident Angle	25	deg	<--SMS Summary characteristics
BW Limits	1	0.01	

measurements before wash

datum #		Scattering at angles Θ,Φ Θs-> 0 Φs-> 0	Scattering at angles Θ,Φ 50 180	Reflect-ivity	user comm-ent	Rough-ness RMS(Å)	TIME	DATE
1	location 1	1.14E-02	4.49E-03	0.83	skip	79.8	12:21:44	08-21-1913
2		1.13E-02	4.51E-03	0.838	skip	79.3	12:21:49	08-21-1913
3		1.14E-02	4.51E-03	0.822		80.2	12:21:55	08-21-1913
4		1.14E-02	4.52E-03	0.827		79.9	12:22:03	08-21-1913
5	2	1.08E-02	4.55E-03	0.821		77.8	12:22:14	08-21-1913
6		1.08E-02	4.55E-03	0.819		77.8	12:22:19	08-21-1913
7	3	1.12E-02	4.90E-03	0.826		78.9	12:22:31	08-21-1913
8		1.13E-02	4.88E-03	0.824		79.1	12:22:36	08-21-1913
9	4	1.05E-02	4.70E-03	0.823		76.4	12:22:50	08-21-1913
10		1.05E-02	4.68E-03	0.821		76.5	12:22:55	08-21-1913
11	5	1.19E-02	4.63E-03	0.823		82.2	12:23:05	08-21-1913
12		1.19E-02	4.60E-03	0.825		82.1	12:23:11	08-21-1913
13	6	1.05E-02	4.01E-03	0.83		76.7	12:23:28	08-21-1913
averages		**1.11E-02**	**4.59E-03**	**0.824**		**78.9**		
std dev				**0.003**				

measurements straight after wash

14	location 1	2.38E-03	2.46E-04	0.862		55.1	13:45:50	08-21-1913
15		2.38E-03	2.47E-04	0.862		55.3	13:45:56	08-21-1913
16	2	4.50E-03	6.20E-04	0.851		64.7	13:46:11	08-21-1913
17		4.50E-03	6.17E-04	0.853		64.7	13:46:16	08-21-1913
18	3	5.19E-03	9.57E-04	0.852		61.6	13:46:36	08-21-1913
19		5.19E-03	9.56E-04	0.85		61.7	13:46:42	08-21-1913
20	4	4.01E-03	6.21E-04	0.855		57.7	13:46:52	08-21-1913
21		4.00E-03	6.19E-04	0.853		57.7	13:46:57	08-21-1913
22	5	1.77E-03	1.83E-04	0.863		47.5	13:47:14	08-21-1913
averages		**3.77E-03**	**5.63E-04**	**0.856**		**58.4**		
std dev				**0.005**				
factor improvement		**2.9**	**8.2**					

Conclusion: SMS measurements imply reflectivity has increased by 3% to values similar to those obtained after washing last year. Scattering has been improved by between 3- and 8-fold. Roughness has also been improved to last year's levels. This indicates the extent of dust removal. The reflecivity is only ~2.5% below maximum (aluminisation 2009).

CT7 multi wavelength reflectometer measurements before and after washing, 21 Aug 2013

WAVEBANDS:	365	404	464	522	~SMS λ 624	760	970	TEMP °C
Measurements before washing								
132 21/08/2013 12:13	88.2	87.4	88.4	79.9	83.1	90.3	93.2	23
133 21/08/2013 12:14	87.6	87.1	88.1	79.6	82.7	90	92.9	23.1
134 21/08/2013 12:14	87	86.4	87.3	79.4	82.6	89.6	92.4	23.3
Average	87.6	87.0	87.9	79.6	82.8	90.0	92.8	
Measurements after washing								
135 21/08/2013 13:31	90.7	90	91.3	82.5	86	93.6	96.7	24.4
136 21/08/2013 13:31	90.9	90.3	91.7	82.9	86.3	94	97	24.6
137 21/08/2013 13:32	90.3	89.9	91.2	82.6	86	93.6	96.6	24.7
138 21/08/2013 13:32	89	88.7	90	81.7	85.2	92.8	95.9	24.8
139 21/08/2013 13:33	90.4	90.1	91.3	82.8	86.1	93.7	96.8	24.9
141 21/08/2013 13:33	90.2	90	91.2	82.7	86.2	93.7	96.8	25.1
142 21/08/2013 13:34	90.4	90.3	91.6	83	86.3	93.9	97	25.3
average	90.3	89.9	91.2	82.6	86.0	93.6	96.7	
std dev	0.6	0.6	0.6	0.4	0.4	0.4	0.4	
Reflectivity increase	**2.7**	**2.9**	**3.3**	**3.0**	**3.2**	**3.6**	**3.9**	

dust Index measurements

	365	404	464	522	624	760	970
132 21/08/2013 12:13	9.6	7.2	7.4	7.2	7.2	7.1	12.5
133 21/08/2013 12:14	9.3	7.4	7.8	7.4	7.6	7.4	12
134 21/08/2013 12:14	10.2	8.2	8.7	8	8	7.9	12.9
	9.7	7.6	8.0	7.5	7.6	7.5	12.5
135 21/08/2013 13:31	7.4	4.9	4.6	4.6	4.2	3.6	8.9
136 21/08/2013 13:31	6.6	4.3	4	4.1	3.9	3.2	9.1
137 21/08/2013 13:32	7.3	5	4.7	4.8	4.4	3.7	9.8
138 21/08/2013 13:32	9.7	7.1	6.9	6.5	5.7	5.1	10.8
139 21/08/2013 13:33	7.2	4.7	4.6	4.7	4.1	3.5	9.3
141 21/08/2013 13:33	7.1	4.8	4.7	4.5	4.1	3.6	9.9
142 21/08/2013 13:34	6.4	4	3.7	3.9	3.7	3.1	9.5
	7.4	5.0	4.7	4.7	4.3	3.7	9.6
dust decrease	2.3	2.6	3.2	2.8	3.3	3.8	2.9

Conclusion: Reflectivity has increased by 2-4%, more in red than blue.
Reflectivity measurements at 624 nm agree to within error with SMS measurements at 670 nm.
Both are 3.5% below IRIS measurements of freshly aluminised mirror.