

Measurements of WHT M1 on 21 December 2012, & new reference mirror on 22 Dec
Taken by Neil O'Mahony using the SMS micro-Scan reflectometer
Successive measurements with similar scattering measurements are in same location
%R exceeding specification repeatability of 0.5% are marked "skip" & omitted from average
Ref are measurements of MG reference mirror, typically 91-93% using SMS

Lambda	0.67	
Incident Angle	25	<--SMS summary characteristics
BW Limits	1	0.01

	Scattering at angles Θ, Φ			Reflectivity	user comment	Roughness RMS(Å)	TIME	DATE
	Θ s->	0	50					
	Φ s->	0	180					
1	locations	3.06E-03	1.04E-03	0.931	ref	39.7	12:17:00	12-21-1911
2		3.08E-03	1.06E-03	0.932	ref	39.8	12:17:11	12-21-1911
3		3.10E-03	1.07E-03	0.931	ref	39.9	12:17:17	12-21-1911
4	1	7.99E-03	2.26E-03	0.797		71.3	12:18:11	12-21-1911
5		7.98E-03	2.26E-03	0.799		71.1	12:18:16	12-21-1911
6	2	1.24E-02	3.11E-03	0.819		89.6	12:18:25	12-21-1911
7		1.24E-02	3.11E-03	0.817		89.6	12:18:29	12-21-1911
8		8.92E-03	2.81E-03	0.833	single?	72.4	12:18:37	12-21-1911
9	3	5.89E-03	1.80E-03	0.83		59.2	12:20:19	12-21-1911
10		5.89E-03	1.80E-03	0.83		59.2	12:20:23	12-21-1911
11	4	6.46E-03	2.41E-03	0.833		60.4	12:20:37	12-21-1911
12		6.46E-03	2.41E-03	0.834		60.3	12:20:42	12-21-1911
13		5.89E-03	1.82E-03	0.84	single?	58.8	12:20:53	12-21-1911
14	5	6.80E-03	3.36E-03	0.85		60.1	12:22:28	12-21-1911
15		6.79E-03	3.37E-03	0.846		60.1	12:22:34	12-21-1911
16		6.79E-03	3.37E-03	0.842		60.2	12:22:40	12-21-1911
17	6	8.14E-03	2.81E-03	0.819		69	12:22:52	12-21-1911
18		8.15E-03	2.81E-03	0.82		69	12:22:57	12-21-1911
19	7	1.15E-02	4.92E-03	0.788		81.6	12:23:05	12-21-1911
20		1.14E-02	4.90E-03	0.784		81.7	12:23:10	12-21-1911
21	8	6.37E-03	2.18E-03	0.82	skip	61.1	12:23:18	12-21-1911
22		6.02E-03	1.75E-03	0.849		59.7	12:25:35	12-21-1911
23		6.02E-03	1.75E-03	0.85		59.6	12:25:40	12-21-1911
24	9	5.20E-03	2.31E-03	0.847		53	12:25:51	12-21-1911
25		5.20E-03	2.30E-03	0.841	skip	53.2	12:25:56	12-21-1911
26		5.81E-03	2.36E-03	0.846		56.4	12:26:07	12-21-1911
27		2.74E-03	2.41E-03	0.923	ref	36.2	12:27:15	12-21-1911
28		2.75E-03	2.43E-03	0.923	ref	36.3	12:27:20	12-21-1911
29		2.89E-03	1.67E-03	0.919	ref	37.4	12:27:28	12-21-1911
30		2.91E-03	1.78E-03	0.919	ref	37.4	12:27:33	12-21-1911
31		2.15E-03	2.07E-03	0.921	ref	32.2	12:27:39	12-21-1911
32	10	7.70E-03	1.83E-03	0.843	M1 again	70.3	12:29:02	12-21-1911
33		7.70E-03	1.84E-03	0.831	skip	70.8	12:29:07	12-21-1911
34		7.70E-03	1.85E-03	0.843		70.2	12:29:12	12-21-1911
35		7.71E-03	1.85E-03	0.841		70.4	12:29:18	12-21-1911

36	11	1.14E-02	2.94E-03	0.832		84.8	12:29:29	12-21-1911
37		1.14E-02	2.94E-03	0.831		84.9	12:29:34	12-21-1911
38		1.01E-02	4.16E-03	0.826	singl.skip	75.2	12:29:42	12-21-1911
mean M1		7.94E-03	2.65E-03	0.829		68.0		
std dev				0.019				
std err				0.005763				

Measurements of new reference mirror (front surface silver), calibrated by SMS at 93% reflectivity

	39	6.84E-05	1.40E-05	0.845		6.9	10:11:58	12-22-1911
	40	6.82E-05	1.53E-05	0.845		6.7	10:12:03	12-22-1911
	41	6.37E-05	1.32E-05	0.85		6.6	10:12:19	12-22-1911
	42	6.39E-05	1.30E-05	0.848		6.6	10:12:23	12-22-1911
	43	2.39E-03	1.44E-03	0.924	old ref	33.8	10:13:22	12-22-1911
	44	2.39E-03	1.45E-03	0.924	old ref	33.9	10:13:27	12-22-1911
	45	5.32E-05	1.38E-05	0.844		5.7	10:13:59	12-22-1911
	46	5.29E-05	1.45E-05	0.843		5.7	10:14:03	12-22-1911
	47	2.16E-02	7.60E-03	0.911	old ref	106.3	10:14:37	12-22-1911
	48	2.17E-02	7.65E-03	0.91	old ref	106.6	10:14:42	12-22-1911
	49	2.63E-03	1.32E-03	0.84		37.5	10:15:00	12-22-1911

the surface roughness measurements on the new ref are reproducible 6 months later

mean R 0.845 new ref