



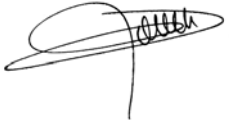


# Herschel – SPIRE

## SPIRE FM mirrors

### Mass measurement report

### CoG location

Fichier: LAM.QUA.SPI.PR.V.030001\_10\_Mass measurement report.doc

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## Change records

Date	Issue	Révision	Modification	Pages concernées
16/01/04	1	0	First issue	All



### Distribution List

Institut	Nom	Issue/Révision									
		D-	1/0								
CNES	Blanc Y.										
CNES	Lorigny E										
RAL	Griffin M.J.										
RAL	King K.J.										
RAL	Sawyer E.										
RAL	Swinyard B.M.										
CEA	Auguères J.L.										
CEA	Cara C.										
CEA	Tourrette T.										
LAM	Baluteau J.P.										
LAM	Bergès J.C.										
LAM	Blanc J.C.										
LAM	Boit J.L.										
LAM	Bonnet D.										
LAM	Castinel L.										
LAM	Colin C.										
LAM	Dargent P.		X								
LAM	Dohlen K.										
LAM	Ferrand D.										
LAM	Jevaux M.										
LAM	Levacher P.										
LAM	Malina R.										
LAM	Moreaux G.										
LAM	Origné A.										
LAM	Pouliquen D.		X								
LAM	Rousset G.		X								
LAM	Travers B.										
	ADP Mirrors		X								



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## 1 Aim of the document

This document gives the results of the mass measurements implemented on the SPIRE STM mirrors.

The CoG value given in the table of paragraph 3 was calculated with a 3D CAD software.

The mass was measured with a SARTORIUS balance (accuracy 5 mg).

## 2 Applicable Documents

no.	document name	document number, Iss./Rev.
AD 1	ICD Structure mechanical Interface	SPIRE.MSS.PRJ.000617-1.0 (Apr. 2001)

## 3 Mass values and CoG location

According to AD 1 the CoG location is given in the following co-ordinate system:

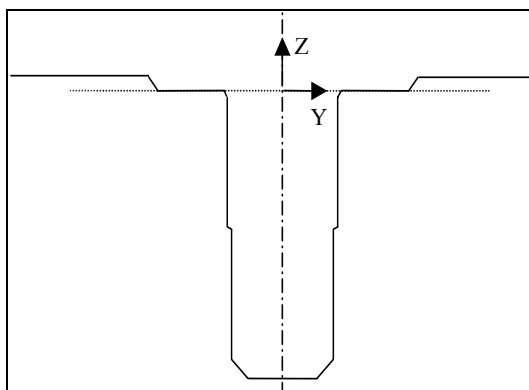


Figure 1: CoG location reference co-ordinate system for mirrors (Y pointing away from SOB)

See table at the following sheet:

Mirror designation	Mirror S/N	Mass value (g)	Xg	Yg	Zg
CM3	03	220,00	-1,142	0,263	12,138
CM5	02	336,00	0	-0,005	14,208
PM6	02	19,81	0	-0,065	1,973
PM7	03	244,59	0,521	-0,005	13,215
PM8	02	39,16	0	-0,033	2,907
PM9	01	193,72	0	-0,007	12,534
PM10	02	47,87	0	-2,343	3,36
PM11	03	35,21	-2,429	0,086	3,357
SM6	02	11,63	0,139	0,306	0,657
SM7	03	35,21	0	-3,641	3,086
SM8A	03	51,50	0	-0,025	3,985
SM8B	03	33,58	0	-0,038	3,437
SM9A	02	31,77	-0,464	-0,04	3,349
SM9B	01	31,84	0,464	-0,04	3,349
SM10A	03	43,45	0,199	-0,03	4,019
SM10B	02	43,35	-0,199	-0,03	4,019
SM11A	03	76,27	0	-0,017	5,18
SM11B	02	76,32	0	-0,017	5,18
SM12A	02	16,01	0	0,324	0,866
SM12B	02	16,01	0	0,324	0,866

**Tableau 1: SPIRE mirrors: Mass and CoG**

The given mass does not take into account the nut, elastic washers and flat washers whose mass is: **8.56 g**

The total mass of the mirrors and nuts and washers is: **1611,86 g**