

	Nett	Contg.	Total	
Photometer cover	7.43	1.49	8.92	[kg]
Spectrometer cover	5.69	1.14	6.82	[kg]
Optical bench	7.10	1.42	8.52	[kg]
Mounting common structure	0.57	0.11	0.69	[kg]
RF-attenuation	0.25	0.05	0.30	[kg]
Phot. det. box	1.58	0.32	1.89	[kg]
Spect. det. box	1.10	0.22	1.32	[kg]
Mounts, Clamps Phot.	1.04	0.21	1.24	[kg]
Mounts, Clamps Spect.	1.06	0.21	1.28	[kg]
Straylight Baffles	1.38	0.28	1.66	[kg]

total	27.20	5.44	32.64	[kg]
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Excluding:	Thermal straps
	Harness wiring
	RF-filter boxes
	JFET I/F structure
	Spect. Cal.
	Shutter
	Cooler I/F
	Straylight baffles (around straps)

Mass spreadsheet SPIRE-structure

Common structure:	mass piece [gr]	number [-]	mass subtotal [gr]	cont. fract. [-]	cont. total [gr]	summed cont. [gr]
Optical bench	7102	1	7102	0.2	1420	
			sum: 7102		sum: 1420	1420
PHOTOMETER COVER						
back panel	539	1	539	0.2	108	
base plate	1229	1	1229	0.2	246	
front panel	709	1	709	0.2	142	
top cover	787	1	787	0.2	157	
top rear cove	434	1	434	0.2	87	
outer panel	3597	1	3597	0.2	719	
fastners	1.7	82	139.4	0.2	28	
			sum: 7434		sum: 1487	1487
SPECTROMETER COVER						
back panel	407	1	407	0.2	81	
base plate	1000	1	1000	0.2	200	
front panel	577	1	577	0.2	115	
top cover	638		0	0.2	0	
top rear cove	409	1	409	0.2	82	
outer panel	3184	1	3184	0.2	637	
fastners	1.7	64	108.8	0.2	22	
			sum: 5686		sum: 1137	1137
MOUNTING						
blade mount	100	2	200	0.2	40	
doubler	19	2	38	0.2	7.6	
A-frame	75	2	150	0.2	30	
cone	150	1	150	0.2	30	
fastners	3	12	36	0.2	7.2	
			sum: 574		sum: 115	115
	[gr/m]	[m]				
RF-spring	25	10	250	0.2	50	
			sum: 250		sum: 50	50
Common structure total:			21046			4209

Mass spreadsheet SPIRE-structure

Detector boxes	mass piece [gr]	number [-]	mass subtotal [gr]	cont. fract. [-]	cont. total [gr]	summed cont. [gr]
PHOTOMETER DETECTOR BOX						
bottom case	426	1	426	0.2	85	
spine case	424	1	424	0.2	85	
top case	449	1	449	0.2	90	
blade mount + blade	75	3	225	0.2	45	
fastners	1.7	30	51	0.2	10	
			sum:	1575	sum:	315
SPECTROMETER DETECTOR BOX						
bottom case	390	1	390	0.2	78	
top case	430	1	430	0.2	86	
blade mount + blade	75	3	225	0.2	45	
fastners	1.7	30	51	0.2	10	
			sum:	1096	sum:	219
MOUNTING						
Detector boxes total:				2671		534

Mirrors, splitters, bulkhead

mass piece [gr]	number [-]	mass subtotal [gr]	cont. fract. [-]	cont. total [gr]	summed cont. [gr]
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mounts and clamps photometer

CM3, CM5, CM7 - mount	650	1	650	0.2	130
PM6, SM6 - mount	120	1	120	0.2	24
PM9 - mount	10	1	10	0.2	2
PM10 - mount	10	1	10	0.2	2
PM11 -mount	10	1	10	0.2	2
dichroic clamp + mount	100	2	200	0.2	40
fastners	1.7	21	35.7	0.2	7

sum: 1035.7

207

Mounts + clamps spectrometer

beam splitter mount + clamp	100	2	200	0.2	40
SM7 - mount	115	1	115	0.2	23
SM8/11 -mount	96	4	384	0.2	77
SM9/10 - mount	144	2	288	0.2	58
SM12 -mount	10	2	20	0.2	4
fastners	1.7	33	56.1	0.2	11

sum: 1063

sum:

213

Bulkhead/mirror mounts/baffles

M6 bulkhead/baffle	352	1	352	0.2	70
PM8 bulkhead/baffle	212	1	212	0.2	42
intermediate bulkhead/baffle	105	1	105	0.2	21
lower bulkhead/baffle	180	1	180	0.2	36
entry baffle	500	1	500	0.2	100
fastners	1.7	20	34	0.2	7

sum: 1383

277

Total

3482

696