UK Astronomy Technology Centre

Monthly Project Report

Project: SPIRE **January 2002** **Author: IP**

1. Summary

SPIRE-ATC-REP-001210

Subsystem Progress This Month

Detailed 2 axis prototype warm testing completed, including control loop tests. Preparation for cryo tests started. Kick-off meeting on random response FEA held. Magnetic modelling underway at MPIA, but delayed by effort availability. Representative Zeiss/PACS motors received. Development model manufacture in progress. Cryo-upscreen rig design complete and placed with workshop for manufacture. Brazed CuBe pivots (chop axis type) order placed with C-Flex.

Engineering Activities

Sub-System Specification up-issued. Note change to schop throw of 2.53° (was 2.4°). Studying revised motor space envelopes.

Design Changes

Change request (on connector position received and handled in ATC CTD 01-26. Rotation of harness connectors by 90° combined with 45 degree angled backshell required to allow min bend radius by MSSL. Development model design updated and ICD document change in progress

PA/QA Activities

Monitoring cleanliness having moved to new lab - may be a problem area and remedial action could be required. DCL, DML, EEE up-issued. FMECA updated and issued.

2. SOFT analysis

Successes

- CuBe pivot (test batch) ordewred. Upscreen rig design completed and passed to workshop for detail & m,anuf.
- DM released for manufacture.
- 2 axis prototype warm tests completed

Opportunities

- ready for cold tests

Failures

- Data for review (eg Declared materials) submitted too late for inclusion in documents passed to ESA for IBDR.
- Error in general lab cleanliness data calculation discovered. Lab is much less clean than thought (>>10,000).

Threats

- Test plan late (also required for estimates of cost to go)
- Representative (ESA type) wire needed for DM harness design … problem finding source of material
- ICD, design description updates running late: no too late for IBDR reference pack, though still available via Livelink if we can get them in in near future.
- Delivery of hardware to LAM LATE due to delays to 2 axis prototype work.
- Late delivery of ATC test cryostat could require extended LHe use and shift pattern work.

Status of Project Milestones - as at 01 Dec 01

Milestone	Baseline	Scheduled	Actual	Change
Report on sensor stability to LAM	07 Jul 00	21 Jun 01	30.Jul.01	
Prototype Detail design release	24 Jan 01	30 May 01	30May01	
Update ICD structure	24 Oct 00	13 Jun 01	13 Jun 01	
20K test dewar available	N/A	Apr.02		+1 month
SPIRE Intermediate Instrument Design Review (IIDR)	TBD	23-24Apr.01	23-24Apr.01	
Integrate Prototype (in place of DM 2) to LAM	30 Mar 01	Mar.**02**		+2 months
Internal ATC review	new	3 Jul 01	2.Jul.01	
Detailed Design Review	30 Jan 01	31 Jul 01	30.Jul.01	
DM release for manufacture	Oct.01	Nov.01	Dec.01	
2 axis prototyping at ATC complete	N/A	Jan.02		
SPIRE IBDR	N/A	Mar.02		
DM tests complete	N/A	22 Mar 02		
BSM STM del'y to RAL	01 Feb 00	01 Jul 02		
BSM CQM delivery to LAM	N/A	Jul.02		

DSM CQM query to RAE	13 Mar 02	Under review		