

<b>URD Document Reference</b> <b>SPIRE-RAL-PRJ-000789</b>	<b>Requirement Number</b>	<b>Title</b>
<b>1) AIV Requirements (ILT, IST, etc) (Ken King; Bruce Swinyard, RAL)</b>		
SPIRE-ICS-PRJ-000543		
<b>3.1</b>	<b>UR-AIV-100</b>	<b>Commanding Capabilities.</b>
3.1.1	UR-AIV-110	Command Sequences.
3.1.2	UR-AIV-120	Command Sequence Scripts
3.1.3	UR-AIV-130	Observations
3.1.4	UR-AIV-140	OBS Maintenance
<b>3.2</b>	<b>UR-AIV-200</b>	<b>Storage Capabilities</b>
3.2.1	UR-AIV-210	Data storage
3.2.2	UR-AIV-220	Test Input Data Storage.
3.2.3	UR-AIV-230	Telemetry Data Storage.
<b>3.3</b>	<b>UR-AIV-300</b>	<b>Analysis Capabilities .</b>
3.3.1	UR-AIV-310	Data Analysis .
3.3.2	UR-AIV-320	Real-Time processing
3.3.3	UR-AIV-330	Real-Time Display .
<b>3.4</b>	<b>UR-AIV-400</b>	<b>Constraints</b>
3.4.1	UR-AIV-410	Test Environment.
3.4.2	UR-AIV-420	Network Isolation .
3.4.3	UR-AIV-430	Development tools .
3.4.4	UR-AIV-440	Hardware
<b>3.5</b>	<b>UR-AIV-500</b>	<b>Maintenance</b>
3.5.1	UR-AIV-510	Test Data and Scripts
3.5.2	UR-AIV-520	Software
<b>2) Calibration Requirements (Seb Oliver, Sussex)</b>		
SPIRE-ICS-PRJ-000544		
<b>3.1</b>	<b>UR-CAL-100</b>	<b>Calibration Files</b>
3.1.1	UR-CAL-110	Defining Calibration Files
3.1.2	UR-CAL-120	Defining Calibration Procedures
3.1.3	UR-CAL-130	Maintaining Calibration files .
3.1.4	UR-CAL-140	Improving calibration files.
<b>3.2</b>	<b>UR-CAL-200</b>	<b>Calibration observations &amp; Analysis Pre-Launch .</b>
3.2.1	UR-CAL-210	Calibration plan.
3.2.2	UR-CAL-220	Ground based Laboratory measurements
3.2.3	UR-CAL-230	Ground based preparatory observations .
3.2.4	UR-CAL-240	Space based preparatory observations
3.2.5	UR-CAL-250	Calibration Analysis
<b>3.3</b>	<b>UR-CAL-300</b>	<b>Calibration observations &amp; Analysis Post-Launch</b>

3.3.1	UR-CAL-310	Calibration plan.
3.3.2	UR-CAL-320	SPIRE calibration observations
3.3.3	UR-CAL-330	Calibration Analysis
3.3.4	UR-CAL-340	Scientific Assessment of Calibration
3.3.5	UR-CAL-350	Repeat Observations (RD-4 2.1.1) .
3.3.6	UR-CAL-360	Observation Timescales (RD-4 2.1.2)
3.3.7	UR-CAL-370	Observation Day (RD-4 2.1.3) .
3.3.8	UR-CAL-380	Failed Observations (RD-4 2.1.4)
3.3.9	UR-CAL-390	Rejected Observations (RD-4 2.1.5).
3.3.10	UR-CAL-400	Removed Observations (RD-4 2.1.5) .
<b>3) Photometer processing</b> (Walter Gear, Cardiff. Seb Oliver, Sussex)		
SPIRE-ICS-PRJ-000545		
	<b>UR-PHT-100</b>	<b>Instrument Modes</b>
	UR-PHT-110	Definition of instrument modes
	UR-PHT-120	Process specific modes
	<b>UR-PHT-200</b>	<b>Development</b>
	UR-PHT-210	Design
	UR-PHT-220	Implementation
	UR-PHT-230	Test
	UR-PHT-240	Validation
	UR-PHT-250	Improvement
<b>3.3</b>	<b>UR-PHT-300</b>	<b>Interactive Analysis: General .</b>
3.3.1	UR-PHT-310	Platforms.
3.3.2	UR-PHT-320	Modularity
3.3.3	UR-PHT-330	IA consists of different generic types of modules .
3.3.4	UR-PHT-340	Interfaces.
3.3.5	UR-PHT-350	Data format
3.3.6	UR-PHT-360	Interfaces to other software
3.3.7	UR-PHT-370	User Help
3.3.8	UR-PHT-380	Source code
3.3.9	UR-PHT-390	History
<b>3.4</b>	<b>UR-PHT-400</b>	<b>Data Products</b>
3.4.1	UR-PHT-410	POF1 : Chop Without Jiggling
3.4.2	UR-PHT-420	POF2 : Seven-Point Jiggle Map .
3.4.3	UR-PHT-430	POF3 : N-Point Jiggle Map
3.4.4	UR-PHT-440	POF4 : Raster Map
3.4.5	UR-PHT-450	POF5 : Scan Map Without

		Chopping.
3.4.6	UR-PHT-460	POF6 : Scan Map With Chopping
3.4.7	UR-PHT-470	POF7 : Photometer Peak-Up (TBD).
3.4.8	UR-PHT-480	POF8 : Operate photometer internal calibrator
3.4.9	UR-PHT-490	POF9 : Special engineering modes (TBD)
<b>3.5</b>	<b>UR-PHT-500</b>	<b>Interactive Analysis: Processing of Observing Modes .</b>
3.5.1	UR-PHT-510	General
3.5.2	UR-PHT-520	POF1: Chop Without Jiggling
3.5.3	UR-PHT-530	POF2: Seven-Point Jiggle Map
3.5.4	UR-PHT-540	POF3: N-Point Jiggle Map
3.5.5	UR-PHT-550	POF4: Raster Map.
3.5.6	UR-PHT-560	POF5: Scan Map Without Chopping
3.5.7	UR-PHT-570	POF6: Scan Map With Chopping.
3.5.8	UR-PHT-580	POF7: Photometer Peak-Up (TBD)
3.5.9	UR-PHT-590	POF8: Operate photometer internal calibrator
3.5.10	UR-PHT-600	POF9: Special engineering modes (TBD)
<b>4) FTS Processing (Jean-Paul Baluteau, LAM)</b>		
SPIRE-ICS-PRJ-000546		
<b>3.3</b>	<b>UR-FTS-300</b>	<b>Interactive Analysis: General .</b>
3.3.1	UR-FTS-310	Platforms
3.3.2	UR-FTS-320	Modularity
3.3.3	UR-FTS-330	IA consists of different generic types of modules
3.3.4	UR-FTS-340	Interfaces
3.3.5	UR-FTS-350	Data formats.
3.3.6	UR-FTS-360	Interfaces to other software
3.3.7	UR-FTS-370	User Help .
3.3.8	UR-FTS-380	Source code
3.3.9	UR-FTS-390	History .
3.3.10	<b>UR-FTS-400</b>	<b>Data Products .</b>
<b>3.4</b>	<b>UR-FTS-500</b>	<b>Interactive Analysis: Processing of Observing Modes</b>
3.4.1	<b>UR-FTS-510</b>	<b>General .</b>
	<b>UR-FTS-560</b>	<b>Engineering Modes</b>
<b>5) Routine Instrument Operation (Gillian Wright, ATC)</b>		
SPIRE-ICS-PRJ-000547		

No numbers	No numbers	
3.1.1	UR-RIO-100	
<b>6) Instrument Engineering</b> (Gillian Wright, ATC)	<b>6) Instrument Engineering</b> (Gillian Wright, ATC)	
SPIRE-ICS-PRJ-000548	SPIRE-ICS-PRJ-000548	
3.1	UR-IE-100	Modelling
3.2	UR-IE-200	Data Acquisition
3.2.1	UR-IE-210	Command Sequences .
3.2.2	UR-IE-220	Preparation tool .
3.2.3	UR-IE-230	Scheduling.
3.2.4	UR-IE-240	Status Information
3.3	UR-IE-300	Data Reduction.
3.3.1	UR-IE-310	Analysis .
3.3.2	UR-IE-320	Data storage
<b>7) ICC as a whole system</b> (Neal Todd, ICSTM, Steve Guest, RAL)		
SPIRE-ICS-PRJ-000549		
<b>3.1</b>	<b>UR-ICC-100</b>	<b>SPIRE Software</b>
3.1.1	UR-ICC-110	Common environment
3.1.2	UR-ICC-120	CVS
3.1.3	UR-ICC-130	Sandbox environment
3.1.4	UR-ICC-140	Information local to ICC
3.1.5	UR-ICC-150	Common system environment
<b>3.2</b>	<b>UR-ICC-200</b>	<b>Documentation</b>
3.2.1	UR-ICC-210	Document format
3.2.2	UR-ICC-220	Document templates
	<b>UR-ICC-230</b>	<b>Document Standards</b>
<b>3.3</b>	<b>UR-ICC-300</b>	<b>HCSS and local computing system</b>
3.3.1	UR-ICC-310	Local <b>HCSS</b> nodes
3.3.2	UR-ICC-320	Local <b>HCSS</b> support
3.3.3	UR-ICC-330	Local accounts
3.3.4	UR-ICC-340	Remote connection for ICC actors
3.3.5	UR-ICC-350	Security
<b>3.4</b>	<b>UR-ICC-400</b>	<b>Communication</b>
3.4.1	UR-ICC-410	Contact info for SPIRE members
3.4.2	UR-ICC-420	Staff on call
3.4.3	UR-ICC-430	Video link and common desktop

3.4.4	UR-ICC-440	Staff availability schedule
	<b>UR-ICC-500</b>	<b>Management</b>
	<b>UR-ICC-510</b>	<b>Management</b>
<b>8) HSC</b> (Neal Todd, ICSTM, Steve Guest, RAL)		
SPIRE-ICS-PRJ-000550		
<b>2.1</b>	<b>UR-HSC-100</b>	<b>Common Uplink System/Mission Planning.</b>
2.1.1	UR-HSC-110	Repetitive observations
2.1.2	UR-HSC-120	Time-scale for observation planning
2.1.3	UR-HSC-130	Mixing calibration and science on OD
2.1.4	UR-HSC-140	Re-requesting failed observations
2.1.5	UR-HSC-150	Modifying observations
2.1.6	UR-HSC-160	Observation rejection by MP
2.1.7	UR-HSC-170	Replacement of schedule by PS
<b>2.2</b>	<b>UR-HSC-200</b>	<b>IA/QCP</b>
2.2.1	UR-HSC-210	Java
2.2.2	UR-HSC-220	Coding standards
2.2.3	UR-HSC-230	Provide quality check tools
2.2.4	UR-HSC-240	Provide interactive analysis
2.2.5	UR-HSC-250	Scope of quality check tools
2.2.6	UR-HSC-260	Review Instrument parameters after QCP
2.2.7	UR-HSC-270	Calibration reports
2.2.8	UR-HSC-280	Provide/Update calibration plan
<b>2.3</b>	<b>UR-HSC-300</b>	<b>HCSS Database</b>
2.3.1	UR-HSC-310	Support <b>HCSS</b> at ICC
	<b>UR-HSC-320</b>	<b>Support HCSS development</b>
<b>2.4</b>	<b>UR-HSC-400</b>	<b>HCSS Maintenance/Configuration Control System</b>
2.4.1	UR-HSC-410	Updating the OBS
2.4.2	UR-HSC-420	Using a common CC system
2.4.3	UR-HSC-430	Update of calibration/engineering files
2.4.4	UR-HSC-440	Changing a system artifact
2.4.5	UR-HSC-450	Responding to an SCR
2.4.6	UR-HSC-460	Traceability of configuration and inputs
2.4.7	UR-HSC-470	Updating software delivered to HSC
<b>2.5</b>	<b>UR-HSC-500</b>	<b>HSC Collaboration</b>
2.5.1	UR-HSC-510	Interface with FSC
2.5.2	UR-HSC-520	Responding to FSC PR requests
	<b>UR-HSC-530</b>	<b>Information for PR</b>

	UR-HSC-540	Joint Information Provision
	UR-HSC-550	Instrument Information Provision
<b>2.5</b>	<b>UR-HSC-600</b>	<b>Training</b>
	UR-HSC-610	Development Staff Training
	UR-HSC-620	Operations Staff Training
	UR-HSC-630	HSC/MOC Staff Training
<b>2.5</b>	<b>UR-HSC-700</b>	<b>Archive</b>
	UR-HSC-710	Archive Support
<b>9) Common Uplink System (Sunil Sidher, RAL)</b>		
SPIRE-ICS-PRJ-000551		
3.1	<b>UR-CUS-100</b>	<b>Instrument Information</b>
3.1.1	UR-CUS-110	Provision Of CUS DB Information
3.1.2	<b>UR-CUS-120</b>	<b>CUS &amp; Instrument Command Database</b>
3.1.3	<b>UR-CUS-130</b>	<b>Telemetry Contents</b>
	UR-CUS-140	Configuration Control
3.2	<b>UR-CUS-200</b>	<b>Installation &amp; Testing</b>
3.2.1	UR-CUS-210	Installation
	<b>UR-CUS-220</b>	<b>Test facility</b>
	<b>UR-CUS-230</b>	<b>Testing of observation modes</b>
3.3	<b>UR-CUS-300</b>	<b>Problem reporting</b>
3.3.1	UR-CUS-310	Problem reporting
3.4	UR-CUS-400	Access to the HSC system
3.4.1	UR-CUS-410	Access to the HSC system
<b>10) Astronomical Observation Preparation (Marc Sauvage, CEA)</b>		
SPIRE-ICS-PRJ-000552		
<b>3</b>		<b>SYSTEM REQUIREMENTS .</b>
3.1	UR-AOP-100	development
3.1.1	UR-AOP-110	Readiness
3.1.2	UR-AOP-120	Flexibility
3.1.3	UR-AOP-130	Supported AOTs
3.1.4	UR-AOP-140	Files for instrument parameters
3.1.5	UR-AOP-150	Values of instrument parameters
3.1.6	UR-AOP-160	Instrument's logic.
3.1.7	UR-AOP-170	Outputs.
3.2	UR-AOP-200	Maintenance
3.2.1	UR-AOP-210	Documentat
3.2.2	UR-AOP-220	Versions .
3.2.3	UR-AOP-230	Evolving c
<b>4</b>		<b>OBSERVER</b>

		<b>REQUIREMENTS.</b>
4.1	UR-AOP-300	Input
4.1.1	UR-AOP-310	Minimal input
4.1.2	UR-AOP-320	Sources
4.1.3	UR-AOP-330	Backgrounds
4.1.4	UR-AOP-340	Spectral energy distribution.
4.1.5	UR-AOP-350	Noises
4.2	UR-AOP-400	Outputs
4.2.1	UR-AOP-410	Synthetic output formats
4.2.2	UR-AOP-420	Easy replay
4.3	UR-AOP-500	Interaction with the tool
4.3.1	UR-AOP-510	Main command mode
4.3.2	UR-AOP-520	Replay mode
<b>5</b>	UR-AOP-600	<b>HOST REQUIREMENTS</b>
5.1.1	UR-AOP-610	Common elements .
5.2.1	UR-AOP-620	O
5.3.1	UR-AOP-630	User's training
5.4.1	UR-AOP-640	Interface with the FIRST Science Center - Development.
5.5.1	UR-AOP-650	Interface with the FIRST Science Center Ð Delivery
5.6.1	UR-AOP-660	Interface with the FIRST Science Center Ð Person .
<b>11) Digital Processing Unit On-board Software</b> (Sunil Sidher, RAL)		
SPIRE-ICS-PRJ-000553		
3.1	UR-OBS-100	Provision of OBS information
3.2	UR-OBS-110	Provision of OBS maintenance facility
3.2.1	UR-OBS-120	Testing of OBS
3.2.2	UR-OBS-130	Configuration control
3.3	UR-OBS-140	Installation
3.4	UR-OBS-150	Problem reporting and resolving
<b>12) SPIRE Consortium</b> (Seb Oliver, Sussex)		
SPIRE-ICS-PRJ-000554		
<b>2.3</b>	<b>UR-CONS-100</b>	<b>Information Input .</b>
2.3.1	UR-CONS-110	Solicited Information Retrieval
2.3.2	UR-CONS-120	Unsolicited Information Collection
2.3.3	UR-CONS-130	Information Storage and Retrieval .

2.4	UR-CONS-200	Information Output & Feedback
2.4.1	UR-CONS-210	Beta Testing
<b>13) MOC (Seb Oliver, Sussex)</b>		
SPIRE-ICS-PRJ-000555		
<b>3.1</b>	<b>UR-MOC-100</b>	<b>Functional Requirements</b>
	UR-MOC-110	Definition of Interfaces
	UR-MOC-120	Delivery of Hardware
<b>3.2</b>	<b>UR-MOC-200</b>	<b>Operational Requirements</b>
	UR-MOC-210	Provision of Staff
	UR-MOC-220	Provision of Training
	UR-MOC-230	Update of Instrument Databases
<b>14) Other ICCs (PACs and HIFI) (Marc Sauvage, CEA)</b>		
SPIRE-ICS-PRJ-000556		
<b>3</b>	UR-OTHER-100	<b>DEVELOPMENT OF ICC SYSTEMS.</b>
3.1	UR-OTHER-110	Commonality
3.2	UR-OTHER-120	Visib
3.3	UR-OTHER-130	Notification .
<b>4</b>	UR-OTHER-200	<b>INSTRUMENT CONTROL AND MONITORING</b>
4.1	UR-OTHER-210	Preparatory program
4.2	UR-OTHER-220	Calibration sources
4.3	UR-OTHER-230	Calibration models .
4.4	UR-OTHER-240	Publication of calibration sources and models.
4.5	UR-OTHER-250	Instrument status
4.6	UR-OTHER-260	Satellite status
4.7	UR-OTHER-270	Observing expertise .
4.8	UR-OTHER-280	Instrumental effects
4.9	UR-OTHER-290	PACS and HIFI expertise
4.10	UR-OTHER-	External SPIRE expertise



	300	- resources .
4.11	UR-OTHER-510	External SPIRE expertise 8 persons .
<b>15) Public</b> (Seb Oliver, Sussex)		
SPIRE-ICS-PRJ-000557		
<b>3.1</b>	<b>UR-PUS-100</b>	<b>Reactive Requirements .</b>
3.1.1	UR-PUS-110	Press Releases .
3.1.2	UR-PUS-120	Public WWW pages
3.1.3	UR-PUS-130	Other Public Relations.
3.1.4	UR-PUS-140	Visits.
<b>3.2</b>	<b>UR-PUS-200</b>	<b>Proactive Requirements</b>
3.2.1	UR-PUS-210	Press Releases .
3.2.2	UR-PUS-220	Public WWW pages
3.2.3	UR-PUS-230	Other Public Relations.
3.2.4	UR-PUS-240	Access to Herschel PR