Instrument Specific Software for JEM-X
Architectural Design Document 5.0

REVIEW II

Edited by Carol Anne Oxborrow
Danish Space Research Institute
Version 1.0

July 5, 2000

DSRI
Danish Space Research Institute
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Contents

Chapter 1

Review II: April 27th 2000

1.1 Agenda

Version 5.0 of the JEM-X ISSW ADD was reviewed by an IRC meeting held on April 27th 2000 at 9.00.

1. Rejected RIDs: RID 34 - multiple material attenuation extensions RID 45 - Use of ISDCLVL designations throughout document
2. Open RIDs: RID24 - GUIs ROOT and interactive executables
3. Open RIDs: RID27 RID28 - Accessing -MOD extensions
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12. Accepted RIDs: are there any accepted RIDs that should not be accepted?
13. AOB

1.1.1 Participants

- Allan Hornstrup allandsri.dk AH
- Peter Kretschmar peter.kretschmarobs.unige.ch PK
- Stefan Larsson stefanidun.astro.su.se SL
- Niels Lund nldsri.dk NL
- Sami Maisala smaisala@astro.helsinki.fi SM
- Carol Anne Oxborrow oxborrowdsri.dk CAO
- Niels Joergen Westergaard njwdsri.dk NJW

1.2 Meeting Transcript

CAO: Does everyone agree with the agenda: I've tried to break the RIDs up by subject. Some issues are big enough to warrant further discussions in other meetings, and maybe protracted discussions with ISDC ;-) END

IRC: njw (njw@heao1.dsri.dk) has joined channel #jemxadr

IRC: smaisala (smaisala@mizar.astro.helsinki.fi) has joined channel #jemxadr

CAO: Hi Sami! good to have you with us, I got your reply to Reiner's last RID END

AH: Could we set off with a logistic problem: I suggest to end today at lunch time, i.e. 12.30. The reason is that I have another meeting this afternoon,

PK: I _hope_ strongly that we can finish by lunchtime END

AH: where my precense is required, and I also think that more than 3-4 hours on IRC is a bit on the long side. Thus, if we dont finish before 12.30,

SL: I will have to leave at 10.45. END

AH: we may continue tomorrow. OK? END

CAO: Me too! That means lots of AI's! And possibly further chat meetings about individual topics raise by the RIDS END

IRC: niels (allan@apollo.dsri.dk) has joined channel #jemxadr

CAO: Hi Nils!

NL: Hi

CAO: I forsee points 3,5,6,7 needing further discussion END Okay, it's 9.15 - lets get a start on point one: rejected RIDs, first RID 34: I for one support NJW's position here and agree with his rejection. Any opposing views? END

AH: NO END

PK: No objection END

SM: No END

NJW: good END

SL: Were do I find NJs reply?

CAO: In the RID document I sent to you yesterday afternoon, I'll send it to you now, if you don't have it. END

SL: I found nothing there (maybe I printed wrong version?) END

CAO: RIDdoc.ps just sent to you - you'll need it for the rest of the meeting. END Okay RID45: I accept my rejection, what about the rest of you, esp. Peter? END

AH: If you don't get it in the mail, we can post it on the web END

PK: Here I (naturally) disagree: The science analysis levels are not volatile, they will be an important feature of ISDC's design for Scientific Analysis. This is to say that we might change a name or two, but the principle of named levels will be kept. IMHO it is important for the integration of our ISSW code into the ISDC framework that we know at which "level" each part of the ISSW is placed. END

CAO: You know that from The Figure. END

PK: Well, I prefer redundant information over a possible lack of the same. END

CAO: But what we've provided is all that we know. Also what about the questions about SWG1 and SWG2 - surely they we an attempt to sort data structures into processing levels. What happens to them now? END

AH: Peter, I think we need one more argument to have redundant information END

PK: The enumerated SWG levels were the first idea. Works well for the ScW pipeline (up to OSM) but not really beyond. They are not completely eliminated because quite a bit of existing V1 software works on the assumption that they exist. But I can live with being outvoted on this END

AH: OK END

CAO: Can I put an AI on Peter and ISDC to provide a document (even a quite short one) that explains:

- a) what ISDC levels are
- b) what they will be used for
- c) how they will co-exist with SWG1 and SWG2
- d) how data structures will be divided between levels (esp. those that get used many places)
- e) everything else that's been decided thus far about ISDC levels END

PK: Hey, I tried to do that at our last meeting. And they will be definitely mentioned in the reworked Anlaysis ADDs (OSA, QLA, SA).

CAO: Yes, if the information, approved by ISDC, is forthcoming, then I'll incorportate it into the ADD . END

AH: Seems that we are approaching an agreement end

CAO: If Peter will provide the information in concrete terms: perhaps including a couple of examples of the placement of data structures into the level system, then I'll implement it as best I can: this may lead to updates of EVERY COMPONENT: so be warned. END

CAO: Due date on that AI Peter? END

PK: Publication of (updated) analysis ADDs - say end of May. END

CAO: So I can't start updating our ADD till end of May? END

CAO: I need your ISDCLEVL description first END

PK: Sorry, I misunderstood your intention.

PK: But it doesn't make too much sense if you try to change this.

CAO: Send me an ISDC level description document and I'll even put a short bit about it in the introductory chapter. END

PK: It would have to happen at the level of major components, like j_data_binning. OK, let's do it this way: I send you a description of what is meant by these levels for the introductory chapter But I do not insist on the mentioning of levels in the drawings and descriptions of individual components. Though it would be nice. END

CAO: Covering all the points litsted above, I hope END

PK: Well, I hope it will do. END

CAO: Okay, Review Decision will read: 'Peter Kretschmar will provide an introductory description of ISDC processing levels, from which CAO will update the ISSW overview and data dictionary.' Is this satisfactory? END

PK: Yes. END

CAO: Due date for your piece Peter? END

IRC: Signoff: allan (Ping timeout)

PK: May 5. END

NL: (Allan: I am still listening from here, my other computer died :-( )

CAO: Okay, Open RIDs: RID 24 on Helsinki My feeling is that for all the interactive components it isn't quite clear where the interface with ROOT and OSMS lies, or to what extent GUIs will be written/developed by us. Could we perhaps do with a couple of chats, or even in-person meetings to clear up some of these issues? Also, do we all need an introduction to ROOT and OSM? END

IRC: allan (allan@ah-notebook.dsri.dk) has joined channel #jemxadr

PK: The problem is, that is it exactly this border that should be defined by now. We have been discussing this more than once and Sami has been at ISDC inbetween. There should be a real effort to understand the possibilities of the available tools

CAO: Agreed END

PK: and then a clear decision if - with current knowledge - we can accept working with them or not. END

SM: The main problem is lack of documentation in OSM and ROOT. It is impossible to make any try to use all capbilities what ROOt and OSM can offer when there is no documentation. END

PK: I agree that documentatoion is somewhat short, but that's why I've requested since a long time that this is simply discussed directly with Reiner. It worked nicely for OMC this way. They came, had a demonstration of the capabilities and saw what could be done and what can't. I should qulaify my statement above - ther is documentation, it's just quite opaque. My problem is that the work of having these discussions wasn't done yet.

CAO: Could we organise an OSM/ROOT meeting at ISDC? A ROOT workshop? END

SM: That sounds nice. END

PK: It could be done, but I'm not sure it is required for this decision.

CAO: I'd be very glad to learn all about both systems, what about you others? END

AH: Me too, but I also agree with Peter,

PK: To learn _all_ about ROOT would take more time than you probably want to invest :-) that accepting the RID could be done END

PK: For OSM there isn't too much to learn. END Regarding the RID: I am gladly willing to answer questions (or forward them to the knowledgeable people) about the inherent capabilities of the existing software. END

CAO: Shall we accept the RID then, with Sami getting the information he needs from Peter to make a complete update of the description of this component? END

SM: I agree. I will ask all those questions. END

AH: y end

PK: OK with me. END

CAO: Also, can I put an AI on someone me, Peter, Allan(?) to organise an OSM (and ROOT) workshop at ISDC? END

AH: let's us rather phrase it to look into the possibility and feasibiltiy of such a meeting. END

CAO: That's a start, at least. Peter will you take that AI? END

AH: Put me on that as well, we need to discuss the feasibiltiy END

PK: Fine with me. END

CAO: Due date? END

AH: June 15? END

PK: OK END

CAO: okay END

AH: On to 3) ? END

CAO: Review decision: 'Accepted: SM to re-write component description with help from PK concerning information about the exact interface with ROOT/OSM' Is that satisfactory? END

AH: y end

PK: Y End

CAO: Onto point 3) - acessing -MOD files: this opens a whole can of worms, namely where will calibration and instrument model files be, how do we access them, and how do we ensure that we're using the most up-to-date files? END

CAO: While the RIDs are only filed for a couple of components, this issue affects many components. END

PK: Let's separate this into two cases:

- (a) -MOD structures: These won't change often and we have many of them for some components. Followin an idea of NJW, I propose to have a single MOD-group. IT is up to the ISDC Analysis system to ensure that a MOD-group with the correct -MOD children exists when the analysis executable is called. In Offline Scientific Analayis the user can modify this group before calling the analysis scripts.
- (b) -CAL and -CFG (="configuration" = instrument information not based on cal. data) Here ISDC plans to have large Index groups for each such data structure which administrate the various instances possibly over the whole mission. From the ISSW point of view, it would be usually easiest to assume that a single instance is available and that the DOL to this instance is passed as parameter to the executable.

All this assumes that usually an executable needs at most a few of these data structures. Selecting the 'right' instance is again a task for the Analysis System supplied by ISDC or the user in OSA. END

CAO: I think I should perhaps write all that in the introduction to the data dictionary: and all people with components using -MOD -CAL and -CFG files should update their components accordingly (I know I have quite a lot inthis area that didn't attract RIDs, but perhaps should have). NJW and SL, will you accept the RIDs and update your components according to this information, that includes diagrams? END

SL: OK. END

NJW: Y

PK: Fine END

CAO: Review decision: 'Accepted: this component, and others using -MOD, -CAL,-CFG data structures to be updated to indicate where these files come from.' END

CAO: Next RID32: Sami and Juhani and Stefan, what data structures should I put in place of the ones that Stephane claims are obsolete? I'm stumped on this one END

PK: If I may intervene:

SL: You may Peter...

PK: JMXi-CYCL-CNV → JMXi-CSSW-CNV (this is the normal HK) JMXi-DRV1-CNV was a placeholder for "derived HK parameters", e.g. the difference between two voltages. Since we do not intend to have a progranm doing such calculations (at least at the moment) → delete JMXi-SPR1-SCP was (probably) a placeholder for so-called "science parameters", i.e. HK-like data derived from actual science data. Currently we do not have such a thing, but we may eventually under a different name. JMX-SRLC-SFR → JMXi-SRCL-RES END

AH: It seems, that the two structures we may delete will have impact ionly on the perfrmance compoinents END

SM: Thanks Peter. That was nice presentation. :-) So I think we can remove those two data structures.

AH: If the "derivation of HK parameters" is needed, it should be done within the perf-components, OK ? ENd

PK: I agree. END

SM: Yes. That can be done by jperformance. END

CAO: So Sami and Stefan must update their components with new data structure names and deleting two data structures, and I will remove/rename the data structures in the data dictionary, Okay? END

AH: y

SL: OK. END

SM: ok END

CAO: Review decision: Accepted, CAO to rename/remove relevant data structures, and SM and SL to update the components that used the obsolete data structures. Okay? END

AH: y

SL: OK. END

CAO: Next, RIDs 40 and 41: feasibility of j-known-src-calib. Soeren has serious reservations here, and I'm quite interested to know how this will be done myself. Helsinki? END

SM: We have discussed this earlier. The problem is simple: Is it possible to find well defined peak in the spectrum of the source?

PK: Difficult. Maybe a single peak at the iron line for some sources. But this would always be on a strong continuum. END

AH: I agree with Sami. THis has been discussed loosely many times, and now is possibly the time to say, that we don't think it is feasible. The component got in as a replacement of handling the calibration from the at that time on-board source in the mask. We have kept it as a placeholder, to not rule out the possibility to do inflight calibration like that. Maybe we should now leave this option to "offline analysis". END

PK: My proposal is an action on Soren (and maybe Allan) to define:

- if something like our j_ksc... is possible
- - if yes: what a sensible procedure would be. END

AH: OK ENd

CAO: OKAY, AI on Allan and Soren and Me to discuss this problem during one of our monday software meetings (I've agreed this with Soren). Would that be all right? END

PK: OK with me END

SM: yes END

AH: Actually, I think our Helsinki friends should provide some input before that meeting, just to let us know how far they have looked into possible sources etc. But I guess we just take that as part of our action to get that info. END

CAO: AI on Helsinki to send us ALL their info on this procedure first? END

AH: No, dont make that a formal action, we just talk to them before our meeting END

CAO: Okay. END

SM: OK END

CAO: Next, RIDS 47 and 48: can we get away with removing j-calib-adc-cor (and by implication j-cor-sci-adc? I'd like to talk to NL first about this, but I

CAO: feel confident that instead of having nominal binning files and having the IT send corrections to produce the -CFG files, it would be easier for them to provide the -CFG files directly. This would happen very rarely, if at all. END

SL: Sorry folks but I have to leave now. I will read through the disc. this afternoon. Bye. END

IRC: nl (nl@lin1.dsri.dk) has joined channel #jemxadr

IRC: niels has left channel #jemxadr : (niels)

IRC: Signoff: larsson ()

PK: In which case they might be named -MOD .. but otherwise I agree. END

AH: I agree too. END

CAO -MOD is a good name too ;-) The thing is these components have changed from being corrections to individual events to corrections to the binning limits tables, so no SWG processing will be done. END

PK: OK, let's say if NL confirms that updates will be rare, we drop j-cor-**-adc.

AH: y

PK: and I will check with Stephane if the data structure should be called -MOD or -CFG. END

CAO: Review Decision for RIDs 47 and 48:' Components j-calib-cor-adc and j-cor-sci-adc

CAO: will both be omitted in favour of the IT providing directly the effective energy binning tables ****-MOD for each telemetry binning configuration', pending NL approval. END

CAO: Sorry to back up here, but RID40 was not about gain calibration feasibility, but whether corrections to pre-flight and j-auto-calib calibrations should be done on raw data, and so be a complete, free-standing correction, in it's own right. Or should corrected data be used so that the corrections found by j-ksc are finetuning corrections that are applied after j-correction corrections? END

AH: Soerens comment is correct, the component should include the raw data - at least for comparison. END (i.e. irrespective of the final output is corrections or finetuning corrections). END

NL: I can confirm that updates to the binning tables will be rare. END

PK: Thanks for the input Nils! END

NL: Unfortunately I will have to leave now for another JEM-X meeting (on the User Manual) END

PK: Regarding RID 40: I fear the answer to that one ties in with the AI to define the whole scheme.

NL: quit

AH: I agree with Peter END

IRC: Signoff: nl (V97 Leaving)

PK: But probably it is a good idea to start on raw data. END

AH: y

CAO: So in j-auto-calib, people should choose between using pre-flight and Sorry, I mean in j-correction, people must choose between using pre-flight and j-auto-calib corrections, or in-flight KSC corrections. If KSC spatial gain is not feasible, then j-auto-calib corretions will be the only gain coretions available, and only position coretions will have a choice of pre-flight or in-flight corrections. correct? END

PK: Not necessarily. We should have spatial gain variation data from the ground calibrations. You just would not have in-flight data. END

AH: Well, as I said, we may have some off-line analysis results, which may be written back in as in-flight calibration END

CAO: Yes, but no need for folk to choose between pre-flight and in-flight corrections. END So I should keep all correction options open in j-correction? END

AH: currently, I think so. END

CAO: Okay, Sami, do you accept RID40? Will you start from raw data instead? END

SM: Yes I can start from raw data. END

CAO: Next, RID 43: should event evaluation be a separate executable, or should this be done within each executable of j-corretion? END

AH: I support the latter END

CAO: Note: the 'accepted' here only applies the change of the keyword name END

PK: I'm also in favor of the latter.

CAO: I'll look into merging event evaluation into individual corrections. So that 'accepted' becomes a global 'accepted'. END

PK: If we define EVT_EVAL or STATUS as essentially a bit-flag rececptable, then each correction executable could add specific numbers (1,2,4,...) to this column. In automatic analysis we might exclude everything where this is not zero. In interactive work a user might select specificly. END

CAO: I agree, Peter. That's just how I envision things too. END

CAO: Now, RIDS with no answers: RID 25 is very much like 24 and probably should get the same review decision. Sami has sent an email answer, so I'll have a look at that now. END Okay, Sami accepts RID25. What about RID6 Sami? END

SM: It was weird question to me because I haven't draw drawn that picture. But if I understood that correctly

CAO: Sami, will you update j-performance and j-k-s-c to indicate which tasks are performed manually? END

SM: I have to specify what parts of applications are used manually and what are automatically.

CAO: Okay, so RID6 is accepted. Good. Now onto the the question of OGIP standards. SB has vented some spleen here, concerning naming of columns in FITs extensions and naming of keywords. Basically, I suggest that we ALL have a look through the OGIP standards (AI on CAO to send URL to all SDAST for OGIP standards) and ensure that our columns and keywords conform to these standards? Any revolutionaries out there want to propose something different? END

PK: Soren is right. We probably have overlooked some places where OGIP standards, could/should be applied. But I warn that in some cases one can discuss if an OGIP standard actually applies. Nevertheless, the exercise is probably very useful. END

CAO: Any more comments on OGIP? END Next, general issue: -INT extensions. It seems to be generally agreed that these should be under configuration control, complete with approved template files and the whole shebang. The other question is whether they should be used at all. Comments? END

PK: In some places, e.g. the intermediate stage of j_correction, they could be quite useful. In other places, they seem superfluous. I agree with Stephane's basic comment: if we do not always delete them, they should not be called -INT.

CAO: The next point concerns j-correction specifically and I intend to remove that -INT extension. END

PK: So instead of JMXi-SHAD-INT we should probably have something like JMXi-FULL-SHD and -REST-SHD. (Note that ISDC uses -SHD to denote shadowgrams at least in one other case). Were we keep -INT structures it would be best to still have templates and all for them. END

SM: Yes I agree. I can remove all -INT structures END

CAO: So we're agreed? INT structures are out. END

PK: Anybody else with an opinion? END

CAO: Okay, AI on all to remove/rename/redesign -INT files. END

SM: OK END

CAO: Next, although this has not become an official RID, it has been suggested to merge j-cor-gain-temporal and j-cor-gain-spatial, which would amongst other things, allow me to get rid of one INT extension. Also, SB has pointed out that, j-cor-gain-spatial many not act merely on imaging events but also on non-imaging events to make them compatible with imaging events that have been corrected for spatial gain variations. Spatial gain corrections wil also use on-ground correction tables, and so will run even when there are not KSC corrections available, which increasingly seems to be the case. Any objections to merging the gain correction executables? END

AH: I have no objections to a merge. END

PK: No objections END

CAO: Next question, should j-cor-gain-spectral also be merged with these two, since it requires reading in exactly the same correction tables as for corrections on other types of data? These means we would be left with only two correction executables: one for correcting positions, and one for correcting energies. A neat division of labour or gnat-brained stupidity? END

PK: You could, but in other places we have different executables for the spectrum mode and the events. While youu read in the same correction tables you work on different data. But I have no strong feelings either way. ENND

CAO: The thing is, spectrum mode is not spectra, it's events that only have energy values.

AH: Me neither, although we have tried to keep an as modular development as possible. i.e: You can merge them, if that's most feasible. END

CAO: So I'm not rebinning spectra, which is different from correcting events. I'm correcting events for which we have not position data END

PK: Wait: Spectrum mode _is_ spectra! Timing mode is just time stamps of events! END

CAO: Sorry, you're right, I'm wrong. These ARE spectra: I'll keep the executable separate. Sorry!

CAO: That's nice because, I've already written a spectrum re-bininng function for j-calib-gain-fitting. So this one's already done. False Alarm. We now have 3 correction executables. END

CAO: Finally, I've taken the liberty of writing review decisions of a positive nature for every RID where the author reply seemed to indicate acceptance of the suggested solution. Are there any case we're I've overstepped my authority and written that people will perform changes and corrections they have no intention of doing? END

AH: (i.e. Peter, do you accept your own RIDs?) END

PK: Yes, I do accept my own RIDs - grudgingly ;-) END

CAO: That's understandable, I hear that Peter Kretschmar is a really tought critic ;-) END

CAO: Any one else with problems over my one-woman judge-jury-and-executioner procedure? END Okay: now for the bad news. Every single RID (except for the two rejected RIDs) is an implied Action Item. I will not add each of them to the AI list, but you are just as responsible for performing the actions agreed to in the RID decision. When is an appropriate deadline for the completion of RIDs? 15th June 2000? END

SM: I agree END

AH: Seems OK, just in time to have the updated ADD ready to the SDAST meeting in Stockholm ? END

PK: This would make it after the ISSW delivery. But OK. END

PK: ISSW V2 delivery, to be specific. END

AH: Fine, then CA can concentrate on that and not on ADD END

CAO: No, I'm on holiday June 7-21st and I'll have to wring all the updates out of you. Let's make the deadline for RIDs June 1st instead if we want the updated version ready for the meeting. In 0.5 to 1.0 weeks to get input from the rest of SDAST and at least 1.0 weeks to integrate it. END

AH: We need an answer - is June 1st OK? END

PK: Fine with me. END

SM: Ok END

CAO: That's an AI on everyone to have their RID actions finished by June 1st. I would like to have input by then, instead of everyone waiting till after the deadline to even start editing. Is this possible? END

CAO: So AOB? END

PK: Not from my side. END

AH: n

SM: n

CAO: One last note: can we in future assume that if I don't send an agenda for a Tuesday morning chat, then there's no chat. If I do send an agenda on Monday, I'll try to do it before lunch, and the chat will be at 9.30 Danish time the next day. Is this okay with you all? END

AH: good idea ! END

PK: I agree! END

CAO: If there are no more comments: many thanks for a productive, and quite speedy review (we got through 13 points in 3 hours!), and may you all have a sunny and relaxing weekend. END

PK: Same to you. But I'll have to work this afternoon and tomorrow first ... don't know how that is in Denmark ;-) END

CAO: We've got sun - and I intend to enjoy it. Bye all! END

1.3 Action Item List

N.B. All RIDs that are not rejected are in effect Action Items on the author who supplied the response to the RID. The agreed due date for completion of all RIDs is 1st June 2000.

REVII_01	PK	5/5/00 Provide an introduction detailing ISDC plans for using ISDCLVL, and how this relates to SWG1 etc., data structures and processing.
REVII_02	CAO	15/5/00 Update ADD overview and data dictionary to include ISDC processing levels based on PK's intro.
REVII_03	PK	15/6/00 Look into the feasibility of setting up an OSM (and possibly ROOT too) workshop for SDAST members at ISDC
REVII_04	ALL	15/5/00 Update component descriptions for all components (including figures) that use -MOD, -CAL and -CFG files to describe where these will come from.
REVII_05	CAO	15/5/00 Write a description of location and archiving of instrument-description data structures based on PKs description in the review meeting
REVII_06	SM/SL	15/5/00 Update component descriptions and diagrams that use obsolete data structures: -CYCL-CNV, -DRV1-DRV, -SPR1-SCP AND SRCL-SFR
REVII_09	ALL	15/5/00 Look through OGIP standards and correct own data structure column and keyword names accordingly.
REVII_10	ALL	15/5/00 Remove/rename/redesign intermediate files so that all data structures become legitimage archivable ISDC data structures.
REVII_11	CAO	Merge j-cor-gain-temporal and j-cor-gain-spatial
REVII_12	ALL	1/6/00 Complete actions indicated by RIDs

Chapter 2

The RIDS

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JEM-X ADD RID

Review Item Discrepancy	RID no	1
Inconsistency	Date	12/04/2000

Originator: C.A Oxborrow, DSRI, oxborrowdsri.dk

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: pp 206, 207, 223

Problem Description: Both data structures JMXi-OBG-IDX must have valid data structres as their member extensions. SUN_ASPECT is not a valid column name for an index table since it is more than 8 characters long and therefore unacceptable as a keyword name in the indexed extension. JMXi-SPAT-IBG, which is the correct indexed element of JMXi-OIBG-IDX, is missing the keywords by which it is index: DEC_SCX, RA_SCX SUN_ASPECT and XYZPOS. Also, SUN_ASPECT cannot be used as a keyword name here.

Recommended Solution: Edit *-IDX files so that JMXi-SPAT-DBG and JMXi-SPAT-IBG are the indexed extensions. Change SUN_ASPECT to SUN_ASPT in JMXi-SPAT-IBG and JMXi-OIBG-IDX. Include all keywords in JMXi-SPAT-IBG

Author's Response: RID accepted, edits have been made

Responding Author: Sami Maisala, Helsinki, Sami.Maisalahelsinki.fi

Review Decision: Accepted

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy		RID no	2
Inconsistency		Date	13/04/2000
Originator: Tim Lock, ISDC			
Document Title: Instrument Specific Software for JEM-X: Architectural Design Document			
Document Reference Number: SDAST/ADD			
Document Revision Number: 5.0			
Problem Location: page 18			
Problem Description: SWG1 shows JMXi-CSSW-HRW as input to j_data_preparation, but JMXi-CSSW-HRW is not shown elsewhere in the A.D.D.			
Recommended Solution: Please clarify and update.			
Author's Response: CAO for ADD: According to the index JMXi-CSSW-HRW is used as input to components on pp. 165 171 162 70 79 and 43. The last of these is the deadtime calculation component in j_data_preparation which reads the numbers of different sorts of rejected events from this data structure. The data structure itself is listed briefly on p.179 of the ADD – its full description is available from the ISDC webpage. PK: The overview drawings lack a connecting arrow from JMXi-CSSW-HRW to j_bkg_model (p. 18 and 19). This will be corrected.			
Responding Author: C.A. Oxborrow and P. Kretschmar			
Review Decision: Accepted: clarifications will be made in the document and figures			

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	3
Feasibility	Date	13/04/2000

Originator: Tim Lock, ISDC

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: page 45, figure 3.3

Problem Description: There are black arrowed lines between "repositories", please explain what they mean and how any action implied is to be implemented.

Recommended Solution: Remove black arrowed lines, such a diagram cannot support any such implied movement, action or connection

Author's Response: The arrows are supposed to indicate that the **-IDX extensions index, or point to, the multiple instances of the data structures indicated. The two sorts of extensions, index tables and data extensions will not be in the same repository, since the latter may be scattered throughout the various SWGs, yet there is a logical link between them. Perhaps I should find a better symbol for indicating this with the word 'indexes' or 'points to' next to it. Would you settle for a dotted line, dotted arrow, thin line with thin arrow head?

Responding Author: C.A. Oxborrow

Review Decision: Closed: figures to be amended to indicate 'points to'

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	4
Inconsistency	Date	13/04/2000

Originator: Tim Lock, ISDC

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: Page 227, section 4.5

Problem Description: The progressive coverage of Data Structures is not clear. Section 4.4 talks of new data structures - i.e. for discussion, finalisation and agreement. Section 4.2 and 4.3 cover agreed structures, so what is the meaning of "other" in section 4.5 ?

Recommended Solution: Explain the purpose of listing these data structures here more clearly. See next RID from TL as well

Author's Response: The data structures are split up in decreasing order of clarity of definition. A paragraph to indicate this split will be added on p.77. Basically we have: templates of data structures already used in software delivered to ISDC and hence included in the latest Reference Platform; data structures used in ISSW currently under developement and hence well defined, though not approved; and finally data structures that are foreseen but not defined at all, these are supplied with a brief description only for completeness. All data structures can be located somewhere by looking in the index.

Responding Author: C.A. Oxborrow

Review Decision: Accepted: explanatory note to be added to ADD

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	5
Feasibility	Date	13/04/2000

Originator: Tim Lock, ISDC

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: Page 227, section 4.5

Problem Description: I disagree with the statement: ".... and so do not require any formal template specification" That is surely a mistake, there are/will be so many agreed data structures, to allow uncontrolled, so-called internal, data structures seems to be a turn in the wrong direction.

Recommended Solution: Simply identify and agree on all data structures, it will lead to future clarity and traceability.

Author's Response: CAO for SDAST: Our understanding was that intermediate data will not be archived and therefore do not need a formal description. This is my understanding of ISDC policy. If this should change then we will provide formal templates. See for example pp.200 and 209. Personally, I would prefer full configuration control of all data structures. PK for ISDC: While ISDC allows in principle to have 'uncontrolled' intermediate data structures between several tightly connected executables, it largely prefers to have all data structures registered correctly and formally. Thus, we should provide templates for all data structures used by JEM-X ISSW.

Responding Author: C.A. Oxborrow and P. Kretschmar

Review Decision: Accepted: all data structures will be under full configuration control

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

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DK-2100 Copenhagen

JEM-X ADD RID

Review Item Discrepancy	RID no	6
Feasibility	Date	13/04/2000

Originator: Tim Lock, ISDC

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: Page 20, Fig 2.4

Problem Description: One of the upper boxes in the diagram is called - Interactive Operational Processing. The name implies that a task necessary for ISDC operations needs to be done manually by someone. This should be clarified fully in the A.D.D. and ISDC operations group should note the operational procedural implications. .

Recommended Solution: Flag clearly in the document and under the "comments" for the appropriate component descriptions that certain operational tasks are not automatic, but rely on an operator (or other-specify) intervention. I.E. flag the manual tasks !

Author's Response:

Responding Author: S. Maisala

Review Decision: Accepted

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

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JEM-X ADD RID

Review Item Discrepancy	RID no	7
Editorial/clarification	Date	12/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p.7, Sect. 2.3 Software Requirements, par. 2

Problem Description: The last sentence of this paragraph ("For example, binning ... normally produced by Spectral Mode") is no longer correct.

Recommended Solution: Either just erase sentence or replace by a sentence that better matches the actual processing.

Author's Response: The end of the paragraph will be replaced by: ....into data with lesser information content: for example, binning event data obtained with Full Imaging mode into spectra and lightcurves.

Responding Author: C.A. Oxborrow

Review Decision: Accepted: text will be changed

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Danish Space Research Institute
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JEM-X ADD RID

Review Item Discrepancy	RID no	8
Editorial/clarification	Date	12/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 9, Sect. 2.4

Problem Description: It is not clear if the header file **jemx.h** is a separately delivered entity or not.

Recommended Solution: Following ISDC's policies, clarify that this header file will be individually delivered with each executable.

Author's Response: The following sentence will be added to the end of section 2.4: "The common ISSW header jemx.h will be updated and delivered with each delivery module sent to ISDC. It is not delivered as a separate package. Care however, must be taken to ensure that each update maintains backwards compatibility with previous versions."

Responding Author: C.A. Oxborrow

Review Decision: Accepted: clarification will be added to ADD

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Danish Space Research Institute
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JEM-X ADD RID

Review Item Discrepancy	RID no	9
Editorial/clarification	Date	12/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 13, Sect. 2.4.6

Problem Description: The description of **j_bin_evts_spectra** is incorrect. This executable can bin most types of events.

Recommended Solution: Correct description to: Bins JEM-X event data to spectra, excluding Timing events.

Author's Response: The change is accepted

Responding Author: C.A. Oxborrow

Review Decision: Accepted: description will be changed

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	10
Editorial/clarification	Date	12/04/2000
Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch		
Document Title: Instrument Specific Software for JEM-X: Architectural Design Document		
Document Reference Number: SDAST/ADD		
Document Revision Number: 5.0		
Problem Location: p. 15, Sect. 2.4.9		
Problem Description: **j_src_data_extract** is incorrectly assigned to ISDC V3.		
Recommended Solution: Change to ISDC V2.		
Author's Response: The change is accepted		
Responding Author: C.A. Oxborrow		
Review Decision: Accepted: the change in the text will be made		

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

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JEM-X ADD RID

Review Item Discrepancy	RID no	11
Editorial/clarification	Date	12/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 15, Sect. 2.4.10

Problem Description: The lightcurves produced by j_sci_lc are not read and analyzed by XSPEC.

Recommended Solution: Change "XSPEC" to "generic time analysis tools".

Author's Response: The change is accepted

Responding Author: C.A. Oxborrow

Review Decision: Accepted: the change will be made in the text

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	12
Alternative approach	Date	12/04/2000
Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch		
Document Title: Instrument Specific Software for JEM-X: Architectural Design Document		
Document Reference Number: SDAST/ADD		
Document Revision Number: 5.0		
Problem Location: p. 16, Sect. 2.4.12		
Problem Description: The description of **j_ksc_position_cor** states that maxima in the shadowgram will be compared with a catalogued shadowgram. This might be difficult to do correctly since the satellite will probably never exactly match the attitude of the catalogued pointing.		
Recommended Solution: Either foresee a correction step for the difference in pointing or use simulated data for comparison.		
Author's Response: You are absolutely right. I think we have to use simulated data anyway (We do not have catalogued shadowgrams). When we then later have all those catalogued shadowgarams we have to try foresee the corrections and interpolate the most appropriate model.		
Responding Author: S. Maisala, J. Huovelin		
Review Decision: Accepted: a clarifying remark will be added to the description of j_ksc_position_cor		

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

DSRI — Danish Space Research Institute Juliane Maries Vej 30 DK-2100 Copenhagen	JEM-X ADD RID

Review Item Discrepancy	RID no	13
Editorial/clarification	Date	12/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 18+19, Fig. 2.2 and Fig. 2.3

Problem Description: **j_data_binning** has no inputs in Figures 2.2 and 2.3.

Recommended Solution: Add input arrow from "corrected data" to both figures.

Author's Response: Additions accepted

Responding Author: P. Kretschmar

Review Decision: Accepted: both figures will be corrected

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	14
Editorial/clarification	Date	12/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 39, **j-prp-status-table**

Problem Description: The **Parameters** contain "Input *Software* Window Group" and "Output *Software* Window Group".

Recommended Solution: Change "Software" to "Science".

Author's Response: Change accepted

Responding Author: C.A. Oxborrow

Review Decision: Accepted: correction will be made in the text

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

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JEM-X ADD RID

Review Item Discrepancy	RID no	15
Editorial/clarification	Date	12/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 96, **j-bin-bkg-lc**

Problem Description: Under **Function** it says: "Bin background model data to *spectra*."

Recommended Solution: Change "spectra" to "lightcurves".

Author's Response: Change accepted

Responding Author: P. Kretschmar

Review Decision: Accepted: corrections will be made in the text

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

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JEM-X ADD RID

Review Item Discrepancy	RID no	16
Editorial/clarification	Date	12/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 98, 101, 111, 114, 118, 121

Problem Description: Unknown data structure `JMXi-CVIG-MOD`.

Recommended Solution: Should probably be replaced with `JMXi-VIGN-MOD`.

Author's Response: Recommended solution accepted.

Responding Author: N.J. Westergaard

Review Decision: Accepted: change data structure name

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

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JEM-X ADD RID

Review Item Discrepancy	RID no	17
Inconsistency	Date	12/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 98ff, **j-imaging-ql**, **j-imaging-sa**

Problem Description: The ouptput data structures `JMXi-SRLC-QLK` and `JMXi-SRLC-SFR`, mentioned in the descriptions of several components, are not known to the generic software used in the QLA and SA subsystems.

Recommended Solution: Always use `JMXi-SRLC-RES`. Since QLA and SA operate in different environments there is no risk of confusion.

Author's Response: Recommended solution accepted.

Responding Author: N.J. Westergaard

Review Decision: Accepted: only one data structure name will be used

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

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JEM-X ADD RID

Review Item Discrepancy	RID no	18
Editorial/clarification	Date	12/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 98ff, **j-imaging-ql/sa**

Problem Description: It is unclear if these scripts and executables will work on a single JEM-X detector at a time or on both at once.

Recommended Solution: Have them work on each detector independently. Include a parameter specifying the detector in all executable and script descriptions.

Author's Response: Recommended solution accepted.

Responding Author: N.J. Westergaard

Review Decision: Accepted: ISSW treats each detector separately with input parameter to indicate which detector is being handled

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy		RID no	19
Alternative approach		Date	12/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 103, **j-ima-shadowgram**

Problem Description: The functional description states that in the case of mixed telemetry modes, the binning will be defined by the constrains of Restricted Imaging mode. This may not always be in the interest of the user, who might want to exploit the time and energy resolution of Full Imaging mode data, even if it covers only part of the Science Window.

Recommended Solution: Include a parameter to chose either Full, Restricted or both kinds of events.

Author's Response: Recommended solution accepted.

Responding Author: N.J. Westergaard

Review Decision: Accepted

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Danish Space Research Institute Juliane Maries Vej 30 DK-2100 Copenhagen	JEM-X ADD RID

Review Item Discrepancy	RID no	20
Editorial/clarification	Date	12/04/2000
Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch		
Document Title: Instrument Specific Software for JEM-X: Architectural Design Document		
Document Reference Number: SDAST/ADD		
Document Revision Number: 5.0		
Problem Location: p. 105, **j-ima-basic-recon**		
Problem Description: The **Processing** description, refers to unknown `JMXi-BKG?-???` data structures.		
Recommended Solution: Change wording of this description.		
Author's Response: This will be updated in compliance with the background part of the ADD.		
Responding Author: N.J. Westergaard		
Review Decision: Accepted: Data structures will be updated		

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

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JEM-X ADD RID

Review Item Discrepancy	RID no	21
Editorial/clarification	Date	12/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 114, **j-ima-sa-basic-recon**

Problem Description: The **Function** description repeats the text from **j-ima-*ql*-basic-recon**

Recommended Solution: Correct description.

Author's Response: Recommended solution accepted.

Responding Author: N.J. Westergaard

Review Decision: Accept: description will be updated

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Danish Space Research Institute
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DK-2100 Copenhagen

JEM-X ADD RID

Review Item Discrepancy	RID no	22
Editorial/clarification	Date	12/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 142ff, **j-known-src-calib**

Problem Description: The delivery date is given as June 2000–January *2000*.

Recommended Solution: Change to January *2001*.

Author's Response: Noticed and corrected.

Responding Author: S. Maisala, J. Huovelin

Review Decision: Accepted: correction will be made

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	23
Inconsistency	Date	12/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 162ff, **j-bkg-interactive**

Problem Description: The design of this component and its output data strcuctures seem somewhat unclear: (1) **j-bkg-interactive** calls **j-bkg-int-model** but seems to have no other children. Why have the intermediate level at all? The processing description mentions that **j-ima-shadowgram** is called, but this is nowhere shown in the figure and not mentioned as subordinate component. (2) It is not clear at all what the production of the shadowgram does within this component. This should be part of **j-imaging-****. (3) The output data structures `JMXi-EVWT-BKG`, `JMXi-SPEC-BKG`, `JMXi-SPAT-INT`, `JMXi-SPEC-INT`, and `JMXi-SCAL-INT` do not seem to be used anywhere.

Recommended Solution: Rework description thoroughly: (1) Either specify more direct children of **j-bkg-interactive**, or eliminate intermediate level **j-bkg-int-model**. (2) Clarify connection to **j-imaging-****. Possibly limit this tool to background selection. (3) Describe use of these data structures or delete them from the ADD.

Author's Response:
(1) Yes I noticed inconcistency in text and subordinate components. I have to specify direct childrens better and there is a mistake in figure The intermediate level was there because the idea was to make possible to select spatial, spectral and scaling factors indenpendently and that data was intermediate. I have now removed the intermediate level.
(2) This component is one of interactive GUI tools. j-imaging-** was there that user could 'see' the chosen background shadowgram. I think I do not need that component there anymore because GUIs are based on OSM and I can use that interface to show images. It is now removed
(3) -INT datastrctures are removed. The output data structures `JMXi-EVWT-BKG`, `JMXi-SPEC-BKG` are the scaled results after analysis.

Responding Author: S. Maisala, J. Huovelin

Review Decision: Accepted: the relevant changes will be made in the description of j-bkg-interactive

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

DSRI — Danish Space Research Institute, Juliane Maries Vej 30, DK-2100 Copenhagen

JEM-X ADD RID

Review Item Discrepancy	RID no	24
Invalid assumptions	Date	12/04/2000

Originator: Reiner Rohlfs, ISDC, reiner.rohlfs@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 138, **j-perf-analysis**

Problem Description: The basic functionality described for this component (plot, correlation, fit) is already included in ROOT and thus automatically available in **j-perf-plot-display**. It is unclear what the output data `JMXi-PERF-INT` would contain (screen dump?, PS copy of plot?).

Recommended Solution: Specify clearly if capabilities beyond those available automatically in ROOT are required. Define program outputs better. Possibly eliminate component.

Author's Response: This is V3 component and the plan is quite old. The application is still under developement. I'm not quite sure what is the ISDC policy in GUIs. When we really decide how to use GUIs I can make the working scheme which is based on ROOT. The output data `JMXi-PERF-INT` is a screen dump.

Responding Author: S. Maisala, J. Huovelin

Review Decision: Accepted: This component still needs better definition, especially where the GUI interface with ROOT is concerned.

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	25
Invalid assumptions	Date	12/04/2000

Originator: Reiner Rohlfs, ISDC, reiner.rohlfs@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 133ff, **j-performance**

Problem Description: As the description states, most or all of the required tools could be set up re-using software written for OSM. For the functionality this is correct but the OSM S/W is only able to read data in very precise formats and thus not able to read the various input data structures listed in the description. Also it is not clear how data will be found that is not part of SWGs.

Recommended Solution: Specifiy clearly that OSM S/W will be re-used. Include executables to generate data in OSM-compatible format (time history, analogous to HK data) from calibration and other data. Specify data structures to be read by performance display and analysis tools, preferably with a single ending (e.g. "`-PER`"). Design encompassing group for this data together with ISDC.

Author's Response: Accepted

Responding Author: S. Maisala, J. Huovelin

Review Decision: Accepted

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	26
Inconsistency	Date	13/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 98ff & p. 111ff, **j-imaging-ql** & **j-imaging-ql**

Problem Description: The overview drawings and component descriptions contain no reference to the use of Index data structures to administrate multiple shadowgrams and images. But from previous discussions and prototype software (OSim) it is known that such will be used.

Recommended Solution: Include precise description of Index Group usage in drawings and descriptions.

Author's Response: Recommended solution accepted.

Responding Author: N.J. Westergaard

Review Decision: Accepted: imaging component descriptions will be updated to include description of the use of Index tables to handle multiple shadowgrams and images

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	27
Inconsistency	Date	13/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 98ff & p. 111ff, **j-imaging-ql** & **j-imaging-ql**

Problem Description: The drawings and component descriptions do not describe how the he required instrument model data structures (`-MOD`) are found. From the document text it could be assumed that they were children of the SWG which will not be the case.

Recommended Solution: Describe precisely how these data structures will be found, e.g., by a master group. Indicate different sources in drawings and descriptions.

Author's Response: Recommended solution accepted.

Responding Author: N.J. Westergaard

Review Decision: Accepted: this component, and others using -MOD, -CAL,-CFG data structures to be updated to indicate where these files come from.

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

# Review Item Discrepancy	RID no	28
## Inconsistency	Date	13/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 118ff, **j-src-extract**

Problem Description: The drawings and component descriptions do not describe how the required instrument model data structures (`-MOD`) are found. From the document text it could be assumed that they were children of the SWG which will not be the case.

Recommended Solution: Describe precisely how these data structures will be found, e.g., by a master group.

Author's Response: This is an as-yet unresolved problem that must be discussed in the review meeting with representatives of ISDC. Corrections to the description will be made in line with the information unearthed during the meeting. The location of -MOD files in the ISDC archive system is as yet unknown to members of SDAST

Responding Author: S. Larsson

Review Decision: Accepted: this component, and others using -MOD, -CAL,-CFG data structures to be updated to indicate where these files come from.

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	29
Editorial/clarification	Date	13/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 118, **j-src-extract**

Problem Description: There is no overview drawing for this component showing the rough data and control flow.

Recommended Solution: Supply one.

Author's Response: A figure will be provided for this component

Responding Author: S. Larsson

Review Decision: Accepted: new figure will be added to ADD

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Danish Space Research Institute
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JEM-X ADD RID

Review Item Discrepancy	RID no	30
Editorial/clarification	Date	12/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 128, **j-sci-format**

Problem Description: There is no overview drawing for this component showing the rough data and control flow.

Recommended Solution: Supply one.

Author's Response: A figure will be provided for this component

Responding Author: S. Larsson

Review Decision: Accepted

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	31
Inconsistency	Date	13/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 118ff, **j-src-extract**

Problem Description: In several places the obsolete data structure name `JMXi-SRLC-SFR` is used.

Recommended Solution: Replace in all cases by `JMXi-SRLC-RES`.

Author's Response: The new data structure name will be used in all relevant places in the document

Responding Author: S. Larsson

Review Decision: Accepted: the current data structure name will be used

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	32
Inconsistency	Date	13/04/2000

Originator: Stphane Paltani, ISDC, Stephane.Paltani@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: Sect 4.2, pp. 178-185

Problem Description: Several data structures appear in the list of "Jem-X data structures in Reference Platform", while they are not. As far as I can tell, they are remains of old non-ISSW ADD's. The data structures are: JMXi-CYCL-CNV, JMXi-DRV1-DRV, JMXi-SPR1-SCP, JMXi-SRCL-SFR

Recommended Solution: Remove them!

Author's Response: These data structures are taken from the JEMX Data Structure Definition Document, however, this is clearly obsolete. These data structures while apparently no longer valid ISDC data structures are still used by j_performance and j_src_extract: hence they cannot merely be removed but must be replaced with other, more up-to-date data structures. This will be done after consultation with the responsible developpers for these components.

Responding Author: C.A. Oxborrow

Review Decision: Accepted, CAO to rename/remove relevant data structures, and SM and SL to update the components that used the obsolete data structures.

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	33
Inconsistency	Date	13/04/2000

Originator: Stephane Paltani, ISDC, Stephane.Paltani@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: Sect 4.2, pp. 179-180

Problem Description: Because of CFITSIO limitations, the name of the columns extracted from the database must be slightly modified. Therefore several column names of the JMXi-CSSW-HRW must be modified: ”_” becomes ”__”, ”+” becomes ”_P”, ”-” becomes ”_M”, ”,” becomes ”_K”; and parameter names starting with a number must be prepanded with a ”_”. For instance, ”5VDC_SEC_V” will become ”_5VDC__SEC__V”. This change will be made in the next reference platform.

Recommended Solution: Modify them accordingly!

Author’s Response: These changes will be made in the data structure summary

Responding Author: C.A. Oxborrow

Review Decision: Accepted: changes will be made in the text

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

# Review Item Discrepancy	RID no	34
Alternative approach	Date	13/04/2000

Originator: Stephane Paltani, ISDC, Stephane.Paltani@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: Sect 4.4.1-4.4.4, pp. 187-190

Problem Description: Instead of defining 8 data structures for the absorption by different material, why wouldn't you define a single "JEMX-ABSO-MOD" table that contains the energy and 4 columns.

Recommended Solution: Implement my proposal!

Author's Response: There are two reasons for the chosen solution: 1) It is easier to change a single data structure in the case that new and better data appear 2) The energy scales may differ. The recommandation will not be applied unless more arguments in that direction are put forward.

Responding Author: N.J. Westergaard

Review Decision: Rejected

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

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JEM-X ADD RID

Review Item Discrepancy	RID no	35
Inconsistency	Date	13/04/2000

Originator: Stephane Paltani, ISDC, Stephane.Paltani@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: Many pages...

Problem Description: As gamma-ray background is only due to instrument, ISDC has chosen the name -BKG instead of -IBG. For overall consistency of the naming scheme, I would like that all -IBG data structures be named -BKG. -DBG is OK!

Recommended Solution: Implement my request, please!

Author's Response: Because it is very important to all of us that we have a consictency of the naming scheme I accept a proposal as it has suggested above.

Responding Author: S. Maisala, J. Huovelin

Review Decision: Accepted: data structures will be renamed as suggested

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	36
Editorial/clarification	Date	13/04/2000

Originator: Stephane Paltani, ISDC, Stephane.Paltani@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: pp 210-211

Problem Description: An index is defined for "JMXi-RSTI-INT" data structure, but not for "JMXi-RSTI-IMA" data structure, while NJW told me it was foreseen. To avoid a name clash, I propose that the index of "JMXi-RSTI-INT" be named "JMXi-RINT-IDX", and that of "JMXi-RSTI-IMA" "JMXi-RSTI-IDX", as it is the one that contain final results

Recommended Solution: Add an index and decide for a non-clashing name

Author's Response: JMXi-RSTI-INT is a misprint. It should have been JMXi-RSTI-IMA.

Responding Author: N.J. Westergaard

Review Decision: Accepted: misprint will be corrected

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	37
Editorial/clarification	Date	13/04/2000

Originator: Stephane Paltani, ISDC, Stephane.Paltani@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: Introduction of Data structure section + p. 227 + other pages

Problem Description: There are far too many -INT data structures. It does not give any information about the content, contrarily to the principles of ISDC. For instance, "JMXi-SHAD-INT" should be named "JMXi-EVTS-SHD" (I may be wrong for the "EVTS" part, but that's not the point). The concept of "-INT" data structures is peculiar. In my view, these data structures should be deleted when the next executable terminates (or at the end of the analysis script); otherwise they are not more "INT" than, say, the "SRW" data structures. All data structures should be defined at ISDC, even the "INT" one.

Recommended Solution: Give sensible names to the "-INT" data structures, or remove them...

Author's Response: CAO: It seems likely that the only -INT structure in my executables will disappear soon, if the two energy correction executables are merged. SM: The -INT data structures are based on very early plan. Those -INT datastructures are planned to use only in interactive analysis applications. The idea was to save same intermediate data between full interactive analysis and the final results are not in -INT data structures. All those structures are in V3 components and I think they will be under huge metamorphose after we have decided how to use these interactive GUIs. I will check if there is some inconcistency in V2 components. Change JMXi-SHAD-INT to JMXi-EVTS-SHD is

Responding Author: C.A. Oxborrow and S. Maisala, J. Huovelin

Review Decision: Accepted: all -INT data structures will be under configuration control and have well-defined templates like other data structures. GUI interfaces, however are still to be designed

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

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JEM-X ADD RID

Review Item Discrepancy	RID no	38
Inconsistency	Date	13/04/2000

Originator: Stephane Paltani, ISDC, Stephane.Paltani@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: pp. 220, 221, 228 (maybe others as well)

Problem Description: Index tables MUST be named "????-????-IDX"

Recommended Solution: Change the names of the index tables that have wrong names

Author's Response: There must be some confusion in those templates. I think they are the very early versions. Example JMXi-SIND-DBG, JMXi-SIND-IBG do not exist anymore. I will recheck all names. I will send all these data structures to you when I have done that and you can make comments and proposals concerning names etc.

Responding Author: S. Maisala, J. Huovelin

Review Decision: Accepted: index table names will be changed to ****-****-IDX

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

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JEM-X ADD RID

Review Item Discrepancy	RID no	39
Editorial/clarification	Date	13/04/2000

Originator: Stephane Paltani, ISDC, Stephane.Paltani@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: pp 227-228

Problem Description: Some DS names do not fit very well in the ISDC scheme

Recommended Solution: Explicitly write that the names of these data structures are still open.

Author's Response: A note indicating that these are preliminary working names, unapproved by ISDC as yet, will be added to the text

Responding Author: C.A. Oxborrow

Review Decision: Accepted: note will be added to the text

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

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JEM-X ADD RID

Review Item Discrepancy	RID no	40
Editorial/clarification, Feasibility,Alternative approach	Date	13/04/2000

Originator: Soren Brandt, DSRI, sb@dsri.dk

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: j-known-src-calib, p 140

Problem Description: It appears that the j-known-src-calib takes corrected data as its starting point. (in general the known-source calibration section appears to be rather vaguely defined)

Recommended Solution: If you want to derive/verify the starting point should at least also include the raw/uncorrected data. The purpose is to derive the correction from raw to corrected data, not a correction to a correction.

Author's Response: Yes I can see the problem. Those data structures have to be RAW/uncorrected data. This component is still under development (It is V3 component). There is a quite lot of problems in this component what should be resolved.

Responding Author: S. Maisala, J. Huovelin

Review Decision: OPEN: this component needs a lot more work and discussion. However, it is agreed that processing for this component will start from raw, uncorrected data.

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

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JEM-X ADD RID

Review Item Discrepancy	RID no	41
Feasibility	Date	13/04/2000

Originator: Soren Brandt, DSRI, sb@dsri.dk

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: j-ksc-spat-gain-corr, p 143

Problem Description: It is unclear that a well-defined peak can be found in the spectrum of a source.

Recommended Solution: If procedure is feasible, it must be more sophisticated than just finding the channel with the highest number of counts.

Author's Response: The main idea in the component j-known-src-calib is that we really have a well known source and there really is a peak in the spectrum. It is planned to use gaussian fitting to resolve the center of the peak but it is possible to try other methods like polynomial fitting. This is mentioned in component j-ksc-gain-values.

Responding Author: S. Maisala, J. Huovelin

Review Decision: OPEN: the design of this component needs more work and discussion

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	42
Editorial/clarification,Missing requirement	Date	13/04/2000

Originator: Soren Brandt, DSRI, sb@dsri.dk

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: j-prp-dead-time, p 43, p195

Problem Description: The hw trigger counter in HK is not used in dead-time estimation. The grey filter in fact behaves like a (artificial) dead time. Grey filter is not mentioned here. the JMXi-DEAD-STA structure it is unclear what the time scale of dead time correction is. As the actual science tm is not mentioned as input this routine is limited to treating dead time on scales larger than 8 sec. If an X-ray and gamma ray burst occurs it is needed to know the deadtime on a finer scale. Has the presence of a strong pulsar been considered?

Recommended Solution: Update with hw-trigger info. Describe relation to grey filter. Specify the time resolution (use TIMEDEL keyword or a column if the time scale for variations is variable).

Author's Response: This description does indeed need to be fleshed out: at the moment, the answers to all the above questions are unknown. Further work will be done on this component, and a fuller description, including, though not limited to, the points above will be provided.

Responding Author: C.A. Oxborrow

Review Decision: Accepted: a fuller description of j-prp-dead-time will be provided

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	43
Editorial/clarification, Alternative approach	Date	13/04/2000

Originator: Soren Brandt, DSRI, sb@dsri.dk

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: j-cor-evt-evaluate, p.68, p.181

Problem Description: It appears that most of the functionality of event evaluation should be done when the events are processed in the first place by other routines. Also and overlap with GTI determination. Example: how is it possible to check the validity of an individual position/energy? The column name of the quality flags EVT_EVAL should be standard FITS.

Recommended Solution: Put all functionality up-front where possible. Clarify what this routine needs to do. Use STATUS for the quality flag column (see OGIP/94-003).

Author's Response: It was felt that event evaluation should be done as the final step of the event correction process since much about the quality of each event might depend on the extent to which a given event must be corrected. For example, where position determination is poor (at GEM segment boundaries for example) a flag should be raised to indicate this. There may be many different circumstances in-flight (or even pre-flight) that lead to certain areas of the detector giving worse position or energy information than the rest of the detector, and events detected in these places must be flagged as having poor position/energy/time determination compared to other events. This is clearly not the same as GTI determination.

Author's Response: Continued: There are good reasons to perform event evalution at the same time as the event corrections. However a final executable at the end of the event corrections allows us to evaluate the reliablity of event data in ways not connected with a specific correction. The component description will be updated to include these points and to expand the description of the ways in which event evaluation might be done. EVT_EVAL will be changed to STATUS if this is in keeping with ISDC usage.
Responding Author: C.A. Oxborrow
Review Decision: Accepted: component description to be expanded. EVT_EVAL to be changed to STATUS

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	44
Editorial/clarification	Date	14/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 175ff, Data Dictionary

Problem Description: There is no overview of the JEM-X data structures in the same way as the overview of executables (Fig. 2.1, p. 11). Such an overview would probably be helpful for developers, ISDC integration and future users.

Recommended Solution: Add one or several figures depicting the JEM-X related data structures and how they are tied together in groups.

Author's Response: A figure will be made as an overview of JEM-X data structures, however, this will be done only once the name changes required by other RIDs have been completed.

Responding Author: C.A. Oxborrow

Review Decision: Accepted: new figure will be added to ADD

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	45
Inconsistency	Date	14/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: Distributed over many pages in document

Problem Description: The overview at the beginning of the ADD alludes to named analysis levels, e.g., "PRP", "COR", "IMAG". The drawings depicting the design of individual components later in the document make no use of this information. While in some cases numerical identifiers are used (e.g., "SWG2") and not further explained, other cases omit all such identification.

Recommended Solution: Include appropriate identifcation of the the level of input and output data in *all* drawings and descriptions of higher level components in the ADD.

Author's Response: At the moment we have no idea what bearing any of these levels will have on the components, nor what they will be used for. This seems to be an internal ISDC matter. We have labelled our overview according to the levels agreed with ISDC, but beyond that it's unclear what the information means, hence it has been brought no further than the overview diagram. Until we know what the levels will be used for there is no more information to add. Each application can include the words 'This component belongs to ISDC level *******' but that's really all that's shown by the figure. As for assigning levels to each data structure I think we'll wait until we see how far ISDC goes with this one before labelling all our data structures - this ISDCLVL idea is very new, untested, and possibly volatile. There are several questions to be answered first: how do SWG1 and SWG2 etc. relate to levels? Are the SWG1 and SWG2 designations obsolete? If not, why not? Etc. etc.

Responding Author: C.A. Oxborrow

Review Decision: 'Peter Kretschmar will provide an introductory description of ISDC processing levels, from which CAO will update the ISSW overview and data dictionary.'

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

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JEM-X ADD RID

Review Item Discrepancy	RID no	46
Alternative approach	Date	18/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 47, **j-calib-gain-fitting** and drawing on p. 45

Problem Description: (1) The description of this tool partially mentions use of Science Window Groups and partially alludes to Index Files. Only the second is correct as the calibration data and gain history is *not* part of the SWG and the Index Groups could span the whole mission! (2) The processing description assumes that the tool selects the FRSS data requiring processing on its own. It is not clear on how this would work. No parameter is mentioned that would control this.

Recommended Solution: Remove any reference to Science Window Groups. Simplify the interface of this executable, by just working on a single set of FRSS spectra and creating a single `JMXi-GAIN-CAL` structure at a time, leaving the Index admistration to the script (supplied by IDSC).

Author's Response: If this is the way ISDC wants things done, that's fine. The suggested changes will be made.

Responding Author: C.A. Oxborrow

Review Decision: Accepted: changes to j-calib-gain-fitting will be made

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

Review Item Discrepancy	RID no	47
Alternative approach	Date	18/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p. 45+, **j-calib-auto**

Problem Description: The description of the pipeline assumes that **j-calib-adc-cor** will be called once for each run of **j-calib-gain-fitting**. This seems unnecessary, as the ADC corrections surely evolve slower than than the gain history.

Recommended Solution: Remove **j-calib-adc-cor** from this pipeline and move it to Interactive Calibration Analysis with the operational task to launch it every time new ADC correction information is available.

Author's Response: Why Interactive Calibration Analysis? There's nothing interactive about this. It is and should be completely automatic. Would it simply be easier to remove this executable and work directly from -MOD files that contain effective float values of telemetry binning limits as opposed to the current MOD extensions that contain the nominal binning limits which are integers. These -MOD extensions could be provided anew by the Instrument Team whenever new ADC corrections are deemed necessary, instead of them providing correction files. In either case the IT has to provide one file for each different binning configuration: in the expected ideal-ADC case the binning limits will be integer values, though stored as floats.

Responding Author: C.A. Oxborrow

Review Decision: Components j-calib-cor-adc and j-cor-sci-adc will both be omitted in favour of the IT providing directly the effective energy binning tables ****-MOD for each telemetry binning configuration, pending NL's approval

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

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JEM-X ADD RID

Review Item Discrepancy	RID no	48
Inconsistency	Date	18/04/2000

Originator: Peter Kretschmar, ISDC, peter.kretschmar@obs.unige.ch

Document Title: Instrument Specific Software for JEM-X: Architectural Design Document

Document Reference Number: SDAST/ADD

Document Revision Number: 5.0

Problem Location: p.47f, **j-calib-adc-cor**

Problem Description: The parameter list and processing description refer to use of Science Window Groups. This is incorrect, as the data addressed is *not* part of the SWG.

Recommended Solution: Remove all allusions to SWG. Use direct DOLs to address data.

Author's Response: These corrections will be made IF the component is kept in the ISSW. See previous RID.

Responding Author: C.A. Oxborrow

Review Decision: Components j-calib-cor-adc and j-cor-sci-adc will both be omitted in favour of the IT providing directly the effective energy binning tables ****-MOD for each telemetry binning configuration pending NL's approval

This form is based on template 3-E4 in ESA PSS-05-0 issue 2

2.1 Summary of RIDS

46	P. Kretschmar	on C.A. Oxborrow	Accepted
47	P. Kretschmar	on C.A. Oxborrow	Closed
48	P. Kretschmar	on C.A. Oxborrow	Closed