DRAFT GLAST Minutes March 5-6, 2004, SLAC

Attendees:

France - CEA
Pierre-Olivier Lagage

France - IN2P3
Stavros Katsanevas

Italy - ASI
Simone Di Pippo by phone
Fabrio Bracciaferri by phone

Italy - INFN
Gabriele Puglierin

Japan - Hiroshima
Takashi Ohsugi

Sweden – KTH/Stockholm
Per Carlson

US - SLAC
Jonathan Dorfan
Persis Drell
Steve Williams
Lowell Klaisner
Charlotte Chang

US - DOE
Kathy Turner

US - NASA
Paul Hertz

US - Goddard
Steve Ritz

US - Stanford University
Peter Michelson

Agenda

Jonathan Dorfan Talk - Welcome

Persis Drell – Overview of SLAC

Comments:
Stavros Katsanevas: The NLC schedule you gave is aggressive in R&D. But proceeding on this schedule will be determined by politics.
Gabriele Puglierin: What method is EXO using? Answer - double neutrino-less beta decay of Xenon.

Peter Michelson – GLAST Science

Comments:
Paul Hertz: Will it use the Environmental NRL 850 unit to test? Yes.

There was a discussion on analysis and tweaking of the instrument.

Stavros Katsanevas: He asked to clarify that the spare (non flight) modules, after delivery of the LAT, will be tested in beam at SLAC for characterization.

There was a discussion of the GLAST data challenge with committee.

It was noted that GLAST is already being referenced in many talks, typically conferences. This indicates high interest in the mission.

Terminology: A plerion is a remnant of a super nova – lots of elementary particles filling the space.

Gabriele Puglierin: What is the GBM (gamma-ray burst monitor) made of? BGO for higher energy. It s being made by Chip Megan at Marshall Space Flight Center. It is a secondary instrument on the satellite. It complements the LAT by allowing it to be pointed at high energy gamma ray bursts when the are detected. The GBM system CDR is in June.
Paul Hertz: There are some funding problems on German partner side.

Stavros Katsanevas: What is bizarre about LMC emission? Detailed answer from Peter.

Klaisner – Project Status – Technical and Cost

Comments:
Paul Hertz: Do you have internal float? Lowell Klaisner: Officially all float is in the boxes. Unofficially there is some flexibility and things can be moved around to hold this schedule.

Paul Hertz: Do you have cost float: Lowell Klaisner – yes, I will discuss later.
Paul Hertz: Do you have acceptance on GRID 1? Lowell Klaisner - yes

There were questions on how scintillator fits on assembly, Lowell explained.
Terminology: BFA is base frame assembly
Paul Hertz: Comment - Incredibly exciting to see flight hardware!

Persis Drell: The funds and people accounting table is important to show international spending. Is this useful? What should be included and what not due to different accounting systems.

Stavros Katsanevas: The table could help could help bring more manpower.
Kathy Turner: It gives an idea of how much effort is there and what is needed.
Stavros Katsanevas: It is noted that manpower accounted differently by country.
Persis Drell: Here some work is costed on-project others off-project, e.g. faculty and research scientists are typically off-project. The table is not intended for public use, just for IFC use.

Steve Ritz talk – GLAST Mission Status

Comments:
Someone: Is there a GPS on board? – yes

Paul Hertz: Other programmatic decisions have been made by NASA on the mission protocol. There was a recent, successful mission assessment review. Dan Blackwood NASA HQ Program exec for GLAST replaces Steve Horowitz

Steve Ritz: GLAST Project Scientist Mr. X(didn't get the name) replaces Jonathan Ormes.

Per Carlson: What is KU band? It is high frequency RF used by satellite downlink – 11-14 Ghz.

Stavros Katsanevas: Interesting discussion on data challenge. Should we put more weight in future meetings on data challenge and consequences and collaboration needs along these lines?

Roundtable Discussion of Agency Representatives

Simona Di Pippo (ASI): They are very busy at home. ASI is close to solving all contractual issues. The procurements for detectors, other components, admin stuff are on the right track. NASA agreement is near completion. Many other general agreements between ASI and NASA are being finalized.

Fabrio Bracciaferri (ASI): He needs updated information on schedule in order to fix all contractual aspects. Specifically he needs system related schedule items.
Persis Drell: Perhaps Lowell should speak on schedule needs from INFN.
Fabrio Bracciaferri: Signing is planned for the first half of June.
Persis Drell: Would it be useful to have a statement from IFC that the June date is absolutely essential.
Fabrio Bracciaferri: We will do all to be compliant with that schedule.
Persis Drell: We will draft action item for tomorrow.
Fabrio Bracciaferri: He wants an update of overall schedule,e especially with redlines for ASI related input.
Fabrio Bracciaferri: He needs complete visibility of overall schedule.

Per Carlson (Stockholm):
They are about to finish production phase for crystals, the last will be done in 2 months. Then they will focus on analysis/science for GLAST, etc. Funding also will change and they will have to seek new funding for the next phase.
Persis Drell: Can IFC help with new funding? Per: No
Lowell Klaisner: Neal Johnson expressed a concern about the facility. Per: There are no problems that will affect delivery on schedule.

Stavros Katsanevas (IN2P3): The production readiness review went well. By the end of summer all structures will be ready. November 2003 beam test at GSI went well. The data is being analyzed. David Smith will work on integration at SLAC. There is a new group bidding to enter and they will provide a software engineer. The Data Challenge was a great success. Berrie Giebels and IN2P3 computer center participated.
As for the future he hopes to continue to have positive outcome of continued support.
Persis Drell: Can the IFC help? Stavros – Yes, Comments favoring extra manpower would very useful, especially for future software help. Peter will help outline needs.

Pierre (CEA):
Their effort is limited to software, and GLAST work is not a high priority at this point. There are 5 scientists and two software engineers. An LOA and MOA have been signed.
Persis Drell: How can IFC help? Pierre – Also have IFC encourage the manpower support of GLAST.

Gabriele Puglierin (INFN):
The situation has already been outlined by Simona (on the phone). At Pisa things are accepted and tested ready to be assembled. Some contingency has been used for

engineers. They are happy with efforts. There are no problems. Tower A is expected to be ready on time. Tower B will follow.

Paul Hertz (NASA):
He is extremely pleased. The mission is now confirmed (NASA parlance for being committed to entire mission including 5 years of operations). The total NASA commitment is $600M. Total project is $750M. This a major project - more than Spitzer Space Telescope. It will be a major resource for NASA. He is pleased that no international agreements are hung up at NASA!!

Kathy Turner (DOE):
GLAST is a strong part of programmatic science and construction. DOE wishes to thank foreign collaborators for their support. DOE is also working well with NASA. DOE's commitment is $42M in fabrication and equal amount in commissioning, operations, and science phases. DOE budgets are stressed on all programs. DOE saw that last August's re-base-lining with NASA was necessary.

Takashi Ohsugi (Japan, Hiroshima):
Hiroshima is responsible for the production of silicon strip detectors. US-Japan Agreement and Hiroshima grant-in-aid are funding. They have requested $1M but it was reduced to $0.67M at most, but that is not final. Only silicon purchase money is approved. There is some possibility to increase. Japanese funding system is going to change. It will be hard to extrapolate what has happened in the past. KEK Director is very sensitive. Visibility of GLAST is key to continued support especially for the common fund. They may have a new proposal - not sure. We need to make clear our contribution and persuade the KEK Director.
Persis Drell: Requested a point for clarification. Is the $1M down to $.67M enough to buy 500 detectors? US-Japan can do 1100 total. But SLAC paid for 500. We need to see what can be done.
Persis Drell: Is the other 500 $1/3M or $¼M ? Ohsugi - about $.3M.

Jonathan Dorfan: LAT is highest priority of our part of US-Japan. Our priority is to launch on time and prepare for science. Budgets are tight. SLAC is challenged but committed to GLAST.

Lowell Klaisner: The Project Manager appreciates contribution from all of the partners – both the commitment and the quality of work.

Simona Di Pippo: They expect time to be very limited after August for 2 months. Would it be possible to have the next meeting by end of July?
Persis Drell: How about the beginning of October? Simona: That time is also busy but better than September. She wants to be there.
Fabrio Bracciaferri : Thanks for the info received and about to be received.

Persis Drell: The Action Items and Minutes should call out contributions and statements of appreciation made here

Paul Hertz (NASA):
There is a new environment at NASA/budgets. GLAST is fully funded. NASA picked up the tab (for the re-base-lining). It is fully supported in Presidents budget but future missions are delayed by flat funding as are other exploration increases.
While the new projects are delayed, existing projects including GLAST are certified.
Stavros Katsanevas: Are shuttle rides for AMS and USO committed?
Paul Hertz: USO was committed last year. Other partners not yet committed. After 2010 there will be no space shuttles. They may need alternate transport. Transport for AMS is not known.

Peter on International Agreements.

See talk.There are only two in draft: ASI and KTH

Persis Drell talked on GLAST Operating Common Fund

Per Carlson: Suggests that those not affiliated with the construction project sign some papers where they actively work. Full members of the collaboration have right to be signers on collaboration papers as determined by the signing rules.
Gabriele Puglierin: How would people use GLAST after 1st year when it becomes an observatory.
Peter Michelson: The first year is of science is validation of the detector. Collaboration produces catalog. After 1 year guest investigator – data is open. Team has enormous advantage. The right way to do science.
Paul Hertz: He doesn't believe the public availability will affect collaborations abilities to do first class science. EGRET had 2-3 years before guests had access. Then exclusive. GLAST data is not exclusive. The data is wide open to all including experts at GLAST Collaboration.
Steve Ritz: Science Support Center supports community not collaboration.
Persis Drell: GLAST LAT is science oriented.
Peter Michelson: The network of Collaboration is important.
Gabriele Puglierin: Some people working on instrument that will not be involved with science. Need experts on instrument, software and the scientists – a little different than Babar.
Persis Drell: How to relate to OCF? Wants a mechanism for open access people to pay for operations. Why not?
Steve Ritz: Agrees with PH, Guests will enhance.
Discussion on how science will progress in and out of the collaboration.
Kathy Turner: Can people outside apply for Guest Observer. Yes but no funds can be provided. But then only need to affect pointing. Data is public. Openness of data has been essential to the funding.
Takashi Ohsugi: Need explain clear benefit of OCF. Data policy and benefit needs to be spelled out. He is not sure at the moment.
Persis Drell: She will refine the proposal after comments here.
Persis Drell: OCF might be proposed for first 3 years, then later when the collaboration no longer exists it may taper down. IFC can end the OCF at that point.

Steve Ritz: More typically collaborations themselves will last beyond the flight.
Gabriele Puglierin: First year is first year of good data.
Per Carlson: He believes OCF is needed and needs to discuss it back home.
Gabriele Puglierin: Payment in kind for computing support is easy; paying invoice is not so easy.
Stavros Katsanevas : ISO staff can be provided as in kind payment? Persis Drell: Yes but perhaps not key operational staff.
Puglierin: He has some issues with ASI versus non-ASI funded affiliates. ASI has only one PhD collaborator. ASI may need to pay more. He will talk with ASI.
Stavros Katsanevas : He suggests task oriented costs based on IFC agreement.
Per Carlson: He stated full member versus affiliated person is difficult. Full member spends 50% or more of research time.
Affiliates are associated with a specific piece of science but no broad responsibility nor access right.
Takashi Ohsugi: Who is eligible for full collaboration membership - not clear. Peter Michelson: Need senior scientist advisory board to decide.

Peter Michelson led a Discussion on I & T Phase Support

Discussion of I&T and commissioning needs from collaborators.

Per Carlson: What is I&T? What tests will be done? Peter Michelson: - Functional tests. Receiving tests. Integrated component tests. Final electronics and flight software tests. Cosmic rays. Test by Van de Graf generator which will produce 17.7 Mev photons. Data Acquisition system tests. Important Rate tests – 10-12 khz. Noise tests. Deadtime.

Stavros Katsanevas: Is there documentation? Reporting of tests? Yes

Peter Michelson: Discussed operations post launch.

Discussion of how the ISOC works.

Science support center receives LAT command from ISOC and can reject but not change them.

Stavros Katsanevas: Which group is responsible for catalog?
Peter Michelson: Don't know yet.

Persis Drell – Let's summarize issues.

Action Item candidates:

- Japanese situation – thank collab for silicon and good work and strongly support request for additional funds. For Ohsugi

- ASI – June 1st deadline for G&A contract, thanks for silicon contract, need schedule done to Fabio – For Gabriele.
- International agreements moving ahead no road blocks – Paul Hertz
- Swedish acknowledge support, strongly encourage funding support in the transition. For Per
- Acknowledge support from all agencies.
- Request agency support for I&T phase which is fast approaching, LK – Point out that people can support by analyzing test data remotely as well as travel to SLAC.
- Establish a Web cam and video recording to help establish international unity during construction.
- OCF – proposal was reasonable starting place, needs further discussion at home.

Paul Hertz: He would like minutes to reflect the IFC's appreciation for NASA's commitment beyond the baseline.

Financial tables – there was further discussion on how to complete for the purpose of accounting for material costs and people in two charts.

Action Items see website.