

Notes on LAPPD Review

Homework Questions Day 1

1. What limited number of applications would you target as priorities in the next stage of development and why? Does not have to be all HEP applications.
 - a. Give reasonable parameter set(s) for operational panel detectors in the next 2-3 years. Indicate if the parameter sets are very different for different implementations.
 - b. What are the likely technical competitors in this area? What are the appropriate performance/cost comparisons? What is your competitive advantage?
 - c. For one or two cases give examples of the specific benefits to HEP that will flow from this stage of R&D
2. It was stated that the solid core/chemical etch process is disruptive to ALD. Please provide further technical evidence or references. Are there other technical reasons to prefer hollow core process versus solid core process? What is the "real-world" cost advantage?
3. Discuss to the extent possible the "due diligence" that has been done in the area of patents and IP protection to ensure that there are no "surprises" in the industrialization phase.

Homework Questions Day 2

1. If the 8" MCP photodetector technology were (for whatever reason) not to materialize, but developments continue on smaller size MCPs using the same technology, what would be the likely impact on future HEP experiments? On other fields?
2. Provide a plan for reduced scope and/or extended schedule for the R&D program in particular alternative funding scenarios. For each case indicate the impact on deliverables/milestones relative to what was presented in the review, and provide a brief rationale for your prioritization.
 - a. Funding at 80% of request
 - b. Funding at 50% of request.

Closeout

- Performance over the previous 3 yrs of the R&D period has been excellent.
 - Progress has been impressive
 - Potentially revolutionary technology (ALD+MCP)
 - Most milestones have been met
 - Significant infrastructure and expertise has been developed to prepare for next stage
- Collaboration should do more work to develop partnerships with end users for specific early applications
 - Develop science drivers which flow down to specs for performance requirements
 - Prioritize delivery of first articles to these early adopters
- Outreach to industry has been exemplary
 - Keep up the good work
 - Having more partners would be helpful
- Engagement of younger scientists in the project very encouraging
- Committee was impressed with the success of a truly interdisciplinary collaboration – setting a good example for others to emulate
- Prioritization will be critical for the next stage, without losing completely the long-range R&D
 - Previous management approach is too lightweight for next stage
 - ANL should take a larger and more proactive role
 - Near-term priority should be production, testing and implementation of first devices
- Assuming success of the first devices, further development of infrastructure to produce devices is recommended
 - Management should develop a staged strategy that can adapt to funding reality
- Continue to perform due diligence on legal and patent issues.