

## Question/Comments on the ADC DDR

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First of all, I appreciate the work done since the PDR meeting in term of detailed design and studies to answer the issues raised during the PDR review.

I have to admit that I did not look at all the drawings so some of my questions/comments may come from my lack of knowledge of the detailed design.

To summarize, I believe I have one major concern and some minor issues.

My major concern is on the Sol-Gel coating:

1- Where will it be done?

Reading the documentation, I got the feeling that the situation is not clear to where the coating will happen. It is mentioned in the ADC detailed design report that the coating will be done at LLNL and Lick would be a back-up solution. However, it is not clear in the documentation if LLNL has been contacted and if they have agreed to that operation and, it is written also that Lick Observatory will not be ready on time for coating the prisms.

2- Schedule issue

It would be a direct delay in the current schedule if there is a problem with the sol-gel coating process.

3- Adhesion issue

Reading the results of the adhesion tests, I did not completely understand the conclusion that the adhesion problem is solved. I believe the samples have demonstrated that the transmission would be adequate. However, the adhesion test was not 100% positive and the UV absorption is presented as too high (at which wavelength exactly?)

I would recommend to clarify the location for this coating and to identify in the schedule possible ways to continue progress on the full scale development phase in case of delay in the sol-gel coating. I would also recommend continuing some of the sample tests before final coating of the prisms.

Regarding the durability issue raised during PDR, I was wondering if some of the samples you have could be used for this purpose. They could be useful also for evaluating a cleaning procedure.

Here are some of my minor items:

1- I understand that there is only one rotary encoder on the mechanism. Because of the minor added cost, I would suggest to add another one on the second screw. It could be used as a redundant sensor in case of failure of the first one and/or could be used to check the integrity of the whole mechanism.

- 2- I understand that there is no brake on the motor. In case of power shutdown, what feature keeps the prisms in position?
- 3- How are the coatings protected when using the prism installation fixture? Is there a cover? I have to admit I was surprised with using a forklift for this operation.
- 4- It looks like there is no test done in the test plan after mounting of the final prisms in the ADC. It could be useful as a possible test to check the integrity of the system before and after shipment to plan for an end-to-end test using the whole system.
- 5- In the requirement matrix, some of the performances should be verify by measurement on the telescope and not only by design (for example the global throughput or the verification of the look-up table)

I hope this is helpful

Jacques