

Agreement for additional work on Lares-2

Email #1

**From:** Antonio Paolozzi <antonio.paolozzi@uniroma1.it>

**Date:** Saturday, March 4, 2017 at 6:13 PM

**To:** David Arnold <david-arnold2006@earthlink.net>

**Cc:** Ignazio Ciufolini <ignazio.ciufolini@gmail.com>, ErricosUmbc Pavlis <epavlis@umbc.edu>

**Subject:** Optical evaluation of LARES2 CCR distribution, radius 201 mm

Dear Dave,

**please consider this information confidential and please reply only to the present mailing list.**

Attached are the description of three different configurations accounting for constructive constraints. The N. of CCRs in each row (parallel) is the same in the three configurations. The angular distance among them is not uniform only in the two subequatorial rows.

Please let me know if you can proceed with the calculation.

Thank you and best regards

Antonio

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Email #2

**From:** David Arnold <david-arnold2006@earthlink.net>

**Date:** Monday, March 6, 2017 at 7:14 AM

**To:** ErricosUmbc Pavlis <epavlis@umbc.edu>

**Subject:** FW: Optical evaluation of LARES2 CCR distribution, radius 201 mm

Hi Erricos,

I received another email from Antonio. I don't want to do this analysis because I cannot support this approach from a technical point of view. I would prefer to stand on the analyses I have already done. I am also becoming very uncomfortable with all this intrigue.

I was in a similar situation while I was working for ITE. They manufactured a number of the arrays now in orbit. They were very secretive about the work I was doing. They did not want me to even talk to John Degnan.

I have been much happier working for ILRS where there are no classified or proprietary issues. But now the same problem is happening with my work for ILRS.

**I cannot even talk to Mike who is paying for the work I am doing. This is not acceptable. I am inclined to stop doing this work for Antonio on the grounds that it would not be under the supervision of the person who is paying me to do this work. Antonio has no authority over me since he is not paying me.**

What would you advise me to do?

Dave

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Email #3

**From:** ErricosUmbc Pavlis <epavlis@umbc.edu>  
**Date:** Monday, March 6, 2017 at 1:02 PM  
**To:** David Arnold <david-arnold2006@earthlink.net>  
**Cc:** Mike Pearlman <mpearlman@cfa.harvard.edu>  
**Subject:** Re: Optical evaluation of LARES2 CCR distribution, radius 201 mm

Dave,

I finally read through the maze of weekend messages back and forth on this topic and I think that there is a major misunderstanding, mainly due to the secretive way that the Italians used throughout the process. Let me explain, and I will talk more with Michael about this, since he needs to understand this too.

The mission was nearly approved some weeks ago, when ASI took a strange position on who would be in charge of the mission, despite the fact that it was our team that proposed the mission and did all the hard work that you are so familiar with! They had a very small review pane of 2-3 people, one of which was Simone and after the review they decided to give mission to INFN (i.e. Simone!). This of course is something that in the UAS would have sent the ASI management to jail, you cannot have a group propose a mission and then you approve it based on the review panel's comments BUT HAND OVER the mission to one of the panelists!

After some quick footwork the decision was rescinded and it was finally agreed that the mission will proceed as originally planned, although INFN will have some involvement in some supervising role or testing, but will NOT own the mission. The final decision will be taken by mid-May, and that is the reason why the Sapienza group wants to still keep things in secret, because they do not trust anyone after this fiasco and I agree with them that others may try to steal the mission or try to manipulate ASI's decision in some way. In all cases a further delay would almost certainly mean a cancellation of the mission, since ESA has very strict deadlines and unless the mission is approved NOW, we will not be able to deliver the s/c within the ESA timeline.

This last fact is also the reason why Antonio insists on getting this last calculation from you, and NOT that he or all of us changed our mind as to which design we want for LARES-2! Because ASI is very worried about meeting ESA's deadline, they do not want to change the design since they think that this would cause extra delays and it will not make the ESA deadline. So Antonio wants to go in with the design that does not make changes that could delay the construction NOW, get the approval by mid-May and THEN we will present the alternative design which is what we all want and support, with the COTS CCRs, etc. They have scoped the ASI management

and they are confident that they can make this switch once the signatures are already on paper.

I think that if you can understand the situation it should be clear to you how important it is to make this calculation NOW, so that we have a mission to fly the design we have been working on for over a year now! I hope you understand,

ecp

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Email #4

**From:** David Arnold <david-arnold2006@earthlink.net>

**Date:** Monday, March 6, 2017 at 1:37 PM

**To:** ErricosUmbc Pavlis <epavlis@umbc.edu>

**Cc:** Mike Pearlman <mpearlman@cfa.harvard.edu>

**Subject:** Re: Optical evaluation of LARES2 CCR distribution, radius 201 mm

Erricos,

I understand. I can do the calculations as long as Mike knows what is going on and approves. I cannot use NASA funding to do work without his knowledge and approval. Mike has to be in the loop.

Your explanation is what I assumed was happening. In fact I sent an email to Simone pointing out that it would be a conflict of interest for him (as a reviewer) or me (as a part of the design team) to be part of a competing proposal. He never clarified what work he wanted me to do for him. I have not made any plans to work with him pending clarification of what work he wants me to do.

Simone is a very competent person. I think he would be an asset to the program such as doing laboratory tests on the proposed mounting of the cube corners. He has already had experience with these small cubes. He provided the array for the recent Mars mission.

I have already studied the case Antonio has outlined for a slightly different configuration. So the general properties are already known. I will look at this new design and see what needs to be done.

Dave

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Email #5

**From:** ErricosUmbc Pavlis <epavlis@umbc.edu>

**Date:** Monday, March 6, 2017 at 1:45 PM

**To:** David Arnold <david-arnold2006@earthlink.net>

**Cc:** Mike Pearlman <mpearlman@cfa.harvard.edu>

**Subject:** Re: Optical evaluation of LARES2 CCR distribution, radius 201 mm

Thank you Dave, I am really sorry we have to go through these pains, but as I explained, the way things work in Italy is quite different from how we do things here! As for Simone's insolvent, I think that it will be a continuous drag on the mission, despite his competency (although we will never know about it since his mission crashed on Mars!), due to his outlandish size of an ego!

I will try to explain to Antonio now, so help me god!

ecp

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Email #6

**From:** Mike Pearlman <mpearlman@cfa.harvard.edu>

**Date:** Monday, March 6, 2017 at 1:58 PM

**To:** ErricosUmbc Pavlis <epavlis@umbc.edu>

**Cc:** David Arnold <david-arnold2006@earthlink.net>

**Subject:** Re: Optical evaluation of LARES2 CCR distribution, radius 201 mm

David,

Do whatever you can to support this work.

Mike

Sent from my iPhone

On Mar 6, 2017, at 1:02 PM, Erricos C. Pavlis <[epavlis@umbc.edu](mailto:epavlis@umbc.edu)> wrote:

Dave,

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