

ELiTES WP2 telecon on Friday, 05/04/2013, 11:00 CEST

List of participants of the telecon:

M. Punturo, K. Yamamoto, K. Somiya, S. Rowan, I. Martin, P. Murray, G. Hammond, K. Haughian, K. Craig, R. Douglas, J. Komma, D. Heinert, C. Schwarz, R. Nawrodt

Minutes: R. Nawrodt, C. Schwarz

Topics:

- Overview of bulk and coating activities
- Review of deliverables and milestones
- Make sure that everybody who should be involved in WP2 activities is actually listed at the mailing list!

- Current activities:
 - current people exchange to ICRR: Kieran Craig (6 weeks), Gerd Hofmann (4 weeks), Christian Schwarz (4 weeks)
 - Kieran: coating investigations ongoing, coated disk was measured, now the uncoated sample is under investigation, an annealed coated sample will follow soon
 - Christian and Gerd: setting up soft- and hardware for loss measurements (focus on fibres, but can be used for coating or bulk as well), first cooling run started (PT cooled)
 - Giles: suspension discussion with ICRR colleagues in separate telecon, progress in modeling suspension and suspension elements, discussion about breaking strength tests (Moltec fibres will be sent from Jena to Glasgow, Impex from ICRR to Glasgow).
 - Sheila: overview of status of mechanical and thermal loss measurements of fibres, suggestion to put focus on profiling (important for TN modeling and understanding of losses), breaking test fibres will be profiled in Glasgow
 - Rebecca: prepares bond test experiments sapphire-sapphire, samples are bonded, bond currently cures, first tests soon (in about 1 week), parallel: more samples prepared, joint mechanical loss and thermal conductivity measurements with Jena, Tokyo and Rome
 - Ronny: overview of joint activities to measure mechanical and thermal properties in Jena, collaboration between Glasgow, Tokyo, Jena and Rome, IMPEX experiment seems to be clamping loss/recoil loss limited, discussion proposed for separate telecon with WP1

- Kazuhiro: currently helping Christian to install pulse tube cooler, coordination of sample distribution for different experiments

 - Michele: suggests that ELiTES travelers summarize their activities in a short report (to be uploaded into ET archive), date and place for the annual ET meeting is currently under discussion, also planning for the annual ELiTES meeting started, nothing yet fixed, a small bilateral meeting takes place on 19th April in Tokyo (invitation to Gerd and Kieran who are in Tokyo anyway)

 - Kentaro: Seiji prepares list of ELiTES participants, not everybody listed yet, list will be circulated (done in the meanwhile)
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- regular telecons for WP2 proposed each ~6 weeks, probably same time (11:00 CEST) -> late in Japan, maybe 1 hour earlier (suggestion will be circulated separately)

ELiTES WP2 telecon

05/04/2013

Topics

- deliverables after year 2 -> aims for this year
- Who are we?
- exchange of people
- status of the activities
- future

Deliverables of WP2

Deliverables:

Task 2.1

[document; 12; UNIGLASGOW, FSU] Overview of loss mechanisms in test mass bulk.

Task 2.2

[database; 24; UNIGLASGOW, FSU, Physics–unirm1, UniSannio] Coating loss model, dielectric mixture mechanical loss model; database of cryogenic properties of bulk and coatings materials.

[document; 36; UNIGLASGOW, FSU, Physics–unirm1, UniSannio] Report on mirror thermal noise: verify HR coatings on sapphire substrates for LCGT and comparison with HR coatings on silicon substrates for ET.

Task 2.3

[document; 24; UNIGLASGOW, FSU, ICRR-UT] Report on the bonding of sapphire test pieces for LCGT and comparison with bonded silicon components planned for use in ET.

[document; 48; UNIGLASGOW, FSU, ICRR-UT] Overview of the thermal noise and cryogenic performance of sapphire and silicon suspensions.

Deliverables of WP2

Deliverables of WP2

Task	Name	Form / Date
2.1	Properties of Test Mass Materials	document M12
2.2	Properties of mirror coatings at low temperatures	database M24
		document M36
2.3	Thermal and mechanical properties of suspension elements	document M24
		document M48

For both deliverables activities are already ongoing.

database:

collection of material data in a „ready to use“ form (MATLAB, plain text, etc.)

Milestones

List and schedule of milestones					
Milestone #	Milestone Name	WPs #	Lead Beneficiary/Partner organisation short name	Delivery date	Comments
1	thermal noise estimates for sapphire and silicon test masses	1 2 ?	FSU , UNIGLASGOW, Physics-unirm1, UniSannio, ICRR-UT	M24	By means of cryogenic facility in Japan
2	Overall Seismic Suspension System test	1	Physics-unirm1 , UNIGLASGOW, FSU, Nikhef, UniSannio, ICRR-UT	M40	By means of cryogenic facility in Japan
3	evaluation and cryogenic thermal cycling of bonded sapphire components	2	FSU , UNIGLASGOW, ICRR-UT	M36	
4	mechanical loss measurements of tantala and silica mirror coatings at low temperature	2	FSU , UNIGLASGOW, ICRR-UT	M36	By both parties
5	Interferometer prototype performance	2	ICRR-UT , Physics-unirm1, FSU, Nikhef, Unisannio	M48	By means of cryogenic facility in Japan
6	Completion of technical design for LCGT	3	ICRR-UT , Physics-unirm1, FSU, Nikhef, Unisannio	M48	
7	Coordination Committee	4	EGO	M1	Setu-up of the management committee

data available, more data taken in parallel, estimates doable

work in progress (U Glasgow)

data available, more data currently taken within ELITES exchange

final performance, so far work not yet in progress (design needs to be finished)

Who are we?

Researchers Involved:

2: T. Suzuki (ER), N. Kimura (ER), K. Yamamoto (ER), Y. Sakakibara (ESR), Chen Dan (ESR); 5.

3: P. Puppo, F. Ricci: 2.

4: P. Seidel (ER), R. Nawrodt (ER), G. Hofmann (ESR), J. Komma (ESR); 4. C. Schwarz

5: S. Rowan (ER), S. Reid (ER), P. Murray (ER), unnamed UNIGLASGOW PG student (ESR); 4.

8: I. M. Pinto (ER), V. Galdi (ER), V. Pierro (ER), R. De Salvo (ER), M. Principe (ER); 5



UWS member

Please make sure that interested/involved people subscribe to the mailing list.

Exchange of people

- status (current visitors of WP2 at ICRR):
 - Kieran Craig: coating investigations
 - Christian Schwarz: loss measurements (software)
 - Gerd Hofmann: loss measurements
(data, study of clamp)

Status

- short review of current activities of all groups present in the call

How to go on?

- regular telecon for WP2:
 - each 6 weeks?
 - maybe same time?
- GWADW could be used for small f2f and coordination of travels/work later this year.
- One joint telecon with WP1 regarding status of sapphire fibre characterization upcoming.