

eLISA



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GWADW, Elba 2013

Next Opportunities for large GW mission

- L2/L3 Call In Europe
 - Large mission call for ESA-led mission
 - Call for Science Themes, Observatory or Survey Type mission ideas
 - Include Strawman mission design (<4 pages)
 - ESA Cost: 1B€ (twice annual ESA Science budget)
 - Expect ~250M€ from member states (payload)
 - Compare: 1268M€ ESA approved eLISA cost (L1-process)
 - ESA/Europe can do eLISA alone!
 - L2 Launch scheduled for 2028 (L3: 2034)

eLISA Consortium

- Short term schedule of selection process:
 - Deadline for White Paper: **May 24th, 2013, noon** (Done)
 - Invitation to spokesperson for workshop: July 8th, 2013
 - Open workshop: September 2-3, 2013 (TBC)
 - Director's proposal to SPC: Late October 2013
 - Selection of science themes for L2 and L3: November 13-14, 2013

White Paper Submitted:

Dear Friends of Gravitational Astronomy,

ESA has recently published a call for White Papers describing science themes for the next large ESA missions L2 and L3 to be launched in 2028 and 2034.

<http://sci.esa.int/science-e/www/object/index.cfm?fobjectid=51454>

We are convinced that a spaceborne low-frequency gravitational wave observatory to be launched in 2028 is the ideal tool to make progress in our understanding of the Universe and we intend to submit a White Paper describing our science case.

Our White Paper for submission to ESA is now in almost final form and you can see it here:

<http://support.elisascience.org/>

This webpage also lets you express your support by registering AS A SCIENTIST.

If you register as a scientist, then your name will be added as a Supporter to our White Paper to be submitted to ESA,

but only if you do it NOW. The white paper will be submitted on **Thursday, May 23 at 23:00 CEST**.

Please do not forget to confirm by answering the email that you will receive after registering.

Further information can be found here:

<http://elisascience.org/whitepaper/>

We will make history!

Karsten Danzmann for the eLISA Consortium

THE GRAVITATIONAL UNIVERSE

A science theme addressed by the eLISA mission observing the entire Universe



White Paper

- White Paper (20 pages total)
 - Single WP for eLISA
 - Survey mission with broad science theme: The Gravitational Universe
 - Covers three smaller science themes
 - Massive Black Holes, Fundamental Laws, Galactic Binaries
 - Strawman mission design: 2 Arm eLISA design
 - ESA only + Potential International (US or China) Contributions for cost/risk mitigation and/or performance improvement

The ESA evaluation in the L1 process showed the NGO mission concept to be both technically feasible and compatible with the L2 cost target. It fits, with margin, into an Ariane V launch vehicle, though other launch scenarios (like the one studied for L1) are possible. There is strong interest from international partners, such as the US and China, to participate and contribute to eLISA, in which case a generous budget margin and/or enhanced science capability would be available. With or without international partners, Europe has the chance to take the lead in this revolutionary new science.

from White Paper

Paul Hertz (NASA Astrophysics): 'If ESA selects a decadal science theme for L2, we will participate.'

AAS 2013 and HEAD 2013 (not exact words)

Beyond 2013:

- Roadmap for eLISA (Expected by eLISA Consortium)
 - Preselection of eLISA for L2 in November 2013
 - Call for L2 Mission concept mid 2014 (eLISA: very mature concept)
 - Assessment study during 2015 (Had several before w. LISA)
 - Also 2015: **LISA Pathfinder** launch (31. July 2015)
 - Selection of L2 scheduled for February 2016 SPC meeting
 - Launch 2028



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- Bill Weber will not be in Alaska 2015!
 - Decision will be made following the Pathfinder!
- Approved ESA costing which fits the ESA only budget
 - No major synchronization of agency budgets required