

- **Reminder: LCF380 Mandate signed by CERN Accelerator Director Oliver Brüning in June 2026**
 - CERN Study Coordinator Alessandra Lombardi, Kick-off Meeting planned for Sept 1st 2026



3. Timeline:

The timeline of the envisioned ILC380 study aims at delivering the following milestones:

- June 2026: initiation of the study with the identification of a CERN Study Coordinator
- September 2026: Status of the findings with the identification of possible gaps and missing information to be studied
- October 2026: appointment of an expert review committee
- December 2026: first status review of the work progress
- March 2027: second status review of the work progress
- September 2027: third status review of the work progress
- December 2027: delivery of all documentation related to study CDR and option analysis summary
- June 2028: inclusion of a LCF380 option document in preparation of the FCC-ee decision making documentation.

Date : 16 June 2026

To : Alessandra Lombardi

Cc : Mark Thomson, Director General
ATS Management Board
Executive Board
Yannis Papaphilippou

From : Oliver Brüning, Director for Accelerators and Technology

Subject : **Nomination as Study Coordinator for the LCF380 Study**

Ref. : DG-DI-ATS-2026-052/ 3480039/1

Dear Alessandra,

I am pleased to nominate you as Study Coordinator for the LCF380 Study. The following sections set out the context and scope of the project, its expected timeline, your role and responsibilities, and the associated budget.

- **Kick-off Meeting cancelled the Friday before the meeting without any reason**
 - Obviously there has been pressure on CERN Management (by whom/) worrying that LCF380 would be perceived as a new study
- **15th of July mail by Oliver Bruning that the LCF380 will be turned into a LCF250 study to underline the superiority of FCC-ee w.r.t. alternative options**
- **October 30th meeting called by Alessandra in very restricted circle**
 - Not clear ow international community will be involved (in principle CERN has only little competences on SCRF technologies



- Scientifically an LCF250 alone has obviously a very restricted physics case
 - However it is a viable and affordable “entry ticket”
- The LCF250 may further allow for addressing a few important questions
 - Two beam delivery systems
 - Review of site implementation
 - Cost review with a plan how to integrate it (i.e. a first LCF Stage) into the CERN budget
- The problem might be that CERN has the full sovereignty over the conclusions of the study and can tweak it as it likes
 - Despite of all the talking on openness etc ...
 - The strategy showed that it doesn't hesitate to make full use of these handles to steer debates



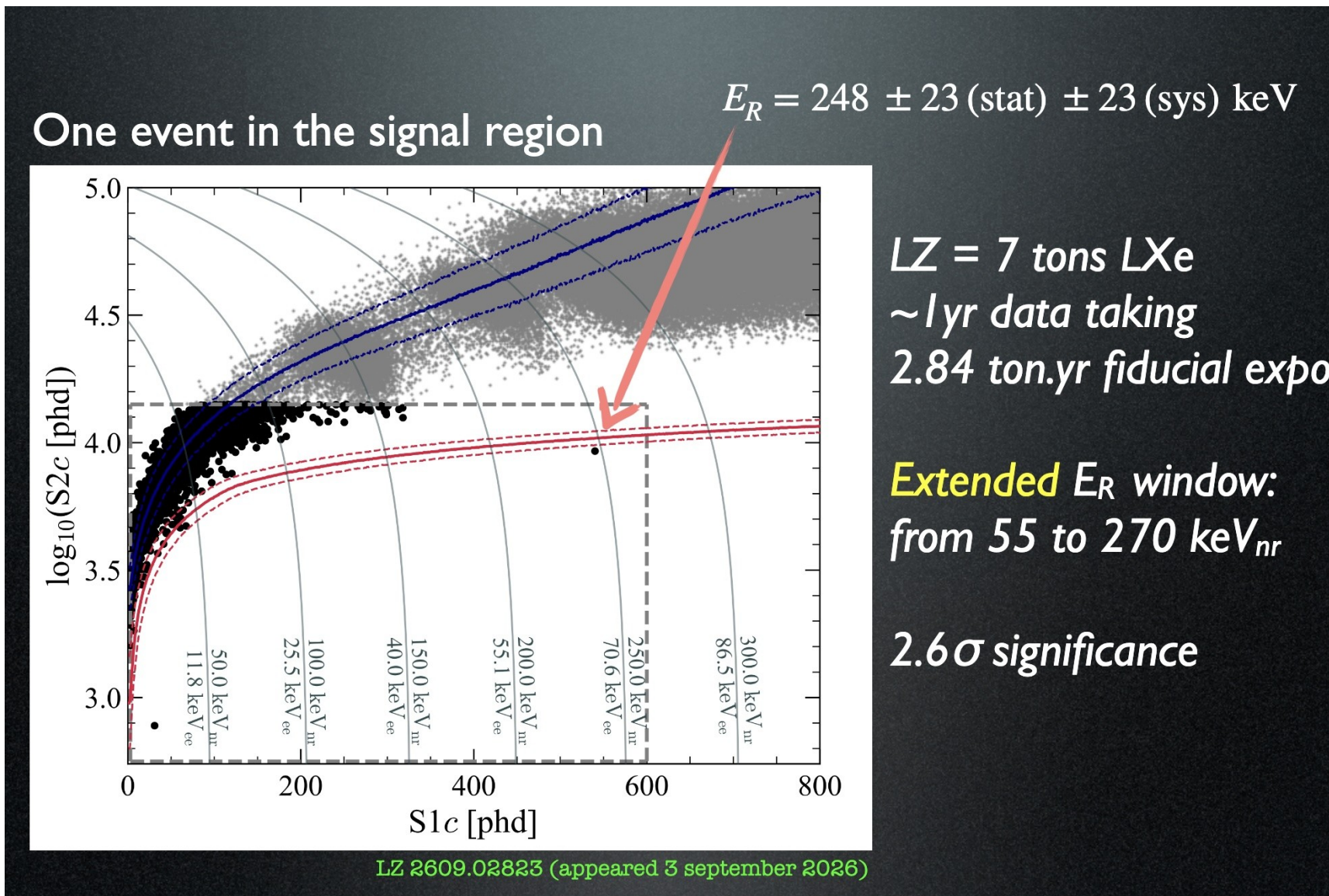
- Final meeting on October 1st at Thoiry covered by ‘Le Monde’ Article that is joined to the agenda
 - Further two series of contributions
 - Cahiers des acteurs
 - (Practically) all IN2P3 labs with connection to particle physics
 - Unless I have missed it no contribution by CEA/Irfu
 - Beyond you can enjoy articles by Janot/Grojean signed by Nobel Price Winners and other eminent persons, by the French Academy of Science, by DESY
 - Experts contributions
 - One article by R.P. on invitation by CNDP (of course massively helped by Marc)
 - I must say that even after re-reading and with some distance I find this article not worse than the ones by more eminent particles
 - However, no feedback, neither positive nor negative
- The public debate was interesting and brought along new aspects to consider
 - E.g. that the density of the population has massively increased in the past 20 years and will continue to increase. This means that the situation is by no means comparable to LEP/LHC times
- The CNDP will now write a report and we might be consulted for factual checks
 - This report will then be handed to corresponding bodies in French Parliament
- Further comments, Marc?



- **FCC-ee re-baselining**
 - CERN will change the cavity frequencies from 400/800 MHz to something like 600 MHz or even 650/1300 MHz (CEPC-like)
 - Of course the/an accelerator can be built with these frequencies but for CERN it's still a new domain and the information given in the Feasibility study is obsolete (five month after the strategy that is founded on the Feasibility study as been adopted by CERN Council)
 - The problem is however bigger for IJCLab and IN2P3 since PERLE design is based in 800 MHz
 - This puts in question the mutual benefit of FCC-ee and PERLE
- **ICFA Meeting 5th - 6th November at Toyama**
 - Discussion (decision?) on future of IDT
 - Jenny is invited to report on ILC/LCF status
 - There are also talks on the "Road to 10 TeV" but I don't know the details

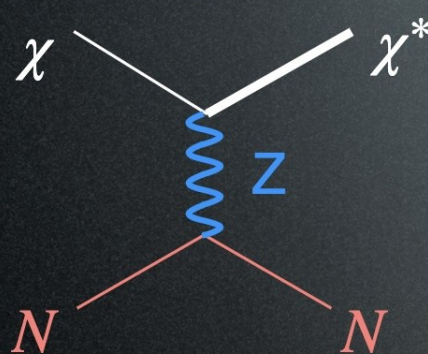


- So far 227 participants registered
- Around 75% on-site
- These are good numbers!
- From us Angeles, Francois R., Maxim and Paul are registered
- Clearly an opportunity to digest LCF380/250 story
- Kick-off for next LCVision project
"Discovery Stories" to accompany the LCF250 study by the community



Inelastic higgsinos

Why higgsinos?



Higgsinos are neutralinos $\tilde{B} - \tilde{W}^3 - \tilde{H}_u^0 - \tilde{H}_d^0$

Neutralino mass matrix in MSSM

$$M_\chi = \begin{pmatrix} M_1 & 0 & -m_Z c_\beta s_W & m_Z s_\beta s_W \\ 0 & M_2 & m_Z c_\beta c_W & -m_Z s_\beta c_W \\ -m_Z c_\beta s_W & m_Z c_\beta c_W & 0 & -\mu \\ m_Z s_\beta s_W & -m_Z s_\beta c_W & -\mu & 0 \end{pmatrix}$$

M_1 bino mass, M_2 wino mass, μ higgsino Dirac mass term ($\mu \tilde{H}_u^0 \tilde{H}_d^0$)

Upon diagonalization

$$M_{\tilde{H}_1^0, \tilde{H}_2^0} = \mu \pm \frac{\delta}{2}$$

$$M_\chi \simeq \mu$$

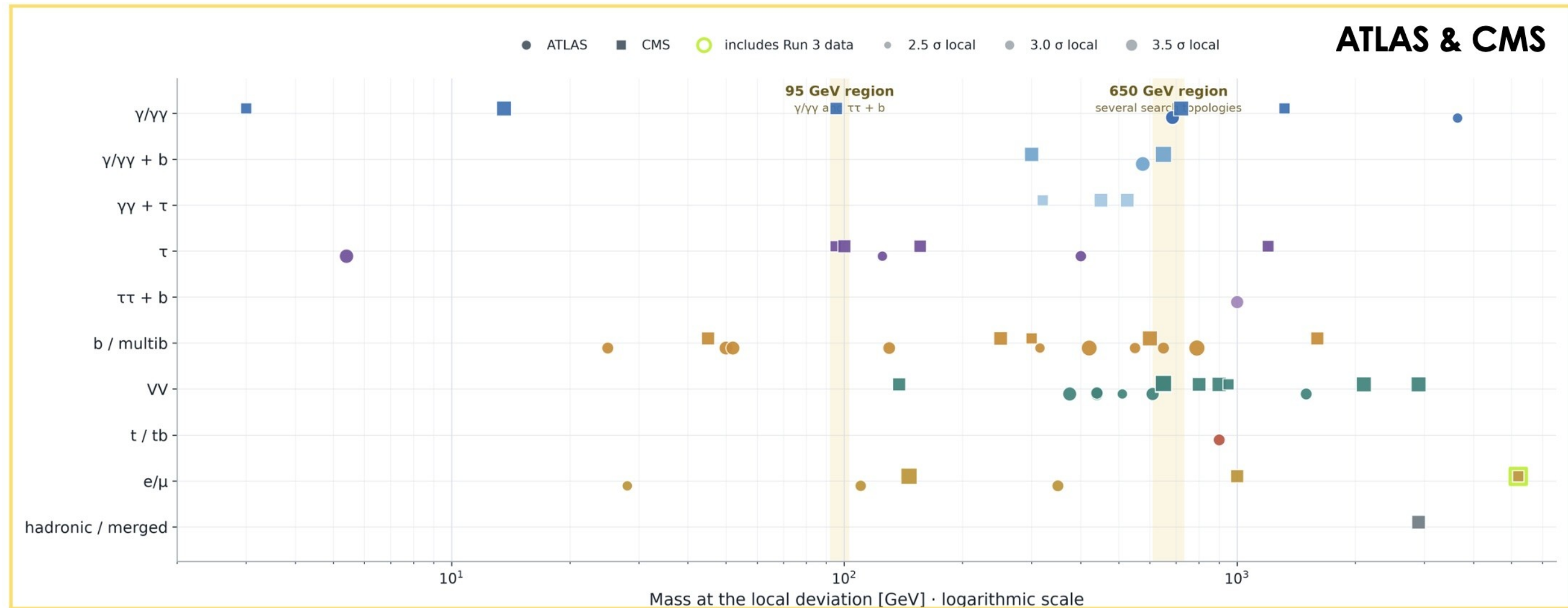
$$M_{\chi^*} \simeq \mu + \delta$$

$$\delta = m_Z^2 \left(\frac{\sin^2 \theta_W}{M_1} + \frac{\sin^2 \theta_W}{M_2} \right)$$

'Best fit' of the LZ event: $\mu \simeq 1.1 \text{ TeV}$, $\delta \simeq 350 \text{ keV}$ ($M_1 \approx M_2 \approx 10^7 \text{ GeV}$)

Fan Reece 2609.01504

Marco Cirelli at last week's DMLAB Meeting



Livia Soffi, Higgs Hunting 2026

- There is an undeniable clustering of events at 650 GeV (and 95 GeV)
- Francois is working since long on these anomalies and came up (with Alain Youanc) on a consistent interpretation



- The previous results do not (yet?) prove that we are on the trace of New Physics
 - ... but they show that the early agreement on the FCC-ee is something between premature and wrong
- Maybe even not the LCF is the right machine to address these anomalies but it's conceptually designed to be able to react and address them at least much better than the FCC-ee
- It is important to keep on communicating these messages
 - The debate has to be reopened!
 - Otherwise we'll end up with a machine that is by no means capable to provide the most fascinating processes of our discipline