

WG1-PREC “Precision in theory and experiment”

MiniWorkshop
“Collision energy”

Wednesday 2nd November 2022

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ECFA Higgs Factory Working Group WG1 on Physics Potential

ECFA Higgs/EW/Top Factory Workshop

Kick-off meeting in June 2021: <https://indico.cern.ch/event/1033941/contributions/4342858/>

Aim: ...bring together the efforts of various e+e- projects, to share challenges and expertise, to explore synergies and to respond coherently to this high-priority strategy item.

- foster collaboration across projects
- between experimentalists and theorists
- facilitate entry for “newcomers”

Timeframe: May 2021 – December 2023

Checkpoints:

- **community-wide plenary ECFA workshops in 2022 and 2023 final “ECFA report”**
- **5 – 7 October 2022 at DESY <https://indico.desy.de/event/33640/timetable/#all>**

Between the big events: organize smaller events, e.g. miniworkshops and seminars

ECFA Higgs Factory Study - WG1 Physics Potential

Subgroup WG1-PREC “Precision in theory and experiment”

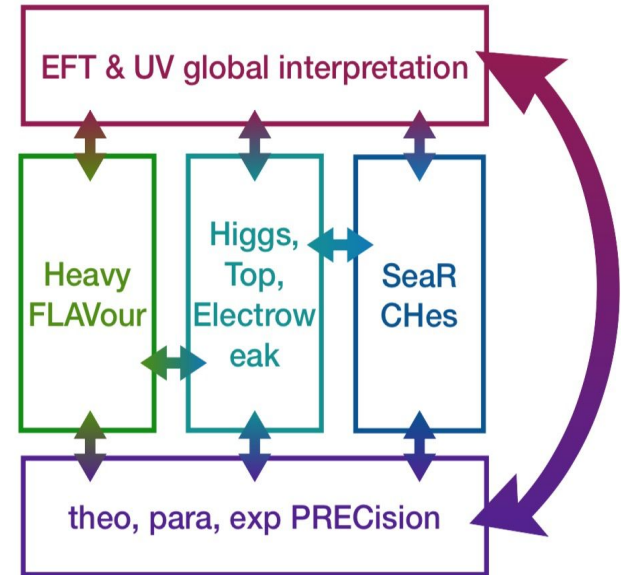
- One of the five subgroups of ECFA-WHF-WG1
- Addressing very high-precision observables

Topics:

- Precision calculations and theoretical, parametric uncertainties - α_S , m and Γ for W , Z , H , t
- Experimental syst. uncertainties, together with WG2 and WG3

Interplay:

- Other WG1 subgroups, in particular HTE, FLAV, and GLOB
- Interface with WG2 for object performance, generator and simulation for high-precision measurements



What we did so far

Tuesday 8 March

WG1-PREC MiniWorkshop: “Measurements at very high precision at future ee colliders”

<https://indico.cern.ch/event/1129966/>

Thursday 10 March:

WG1-PREC MiniWorkshop: “Parametric uncertainties at future ee colliders: α_s ”

<https://indico.cern.ch/event/1131344/>

7-17 June:

Organized by CERN: Precision calculations for future e+e- colliders: targets and tools

<https://indico.cern.ch/event/1140580/>

14 July:

WG1-PREC MiniWorkshop: “Parametric uncertainties at future ee colliders: α_{em} ”

<https://indico.cern.ch/event/1173700/>

November-December 2022

Today

WG1-PREC MiniWorkshop: “Collision energy”

<https://indico.cern.ch/event/1206598/>

- **Guy Wilkinson:** “Precision and requirements for ECM determinations at circular e+e- colliders”
- **Graham Wilson:** “Future e+e- ECM determinations with dilepton final states”

16th December

WG1-PREC MiniWorkshop: “Luminosity Spectrum determination”

- **Andre Sailer:** title tbd
- **Mogens Dam:** : title tbd

More info to come soon via the cern e-group (stay tuned!)

Email list

For future WG1-PREC events, please subscribe here, and/or forward the link to interested colleagues:

<http://simba3.web.cern.ch/simba3/SelfSubscription.aspx?groupName=ecfa-whf-wg1-prec>

(this link and email list also works for non-cern accounts)

Links

Email list

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WG1 portal page on indico

<https://indico.cern.ch/event/1044297/page/23971-wg1-group-activities>

WG1 seminars and events

<https://indico.cern.ch/category/14055/>

WG1 twiki page (being formed)

<https://twiki.cern.ch/twiki/bin/view/ECFA/ECFAHiggsFactoryWG1>