TOPICAL GROUP PLANS: GLOBAL INTERPRETATIONS

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IDT-WG3-Phys Kickoff Meeting
& Mini-symposium on Muon g-2
May 27, 2021

GLOBAL INTERPRETATIONS

Goal is to interpret results from physics studies in global context

Requires some parametrization, e.g. EFT

Understand impact for concrete UV models

Study complementarity and synergy with other experiments

Twofold approach:
(1) Parametrize and study possible deviations from SM
(2) Explore implications for specific UV models

Ties together all working groups

TIM COHEN

Associate Professor

University of Oregon, USA

Interests:

HEFT vs SMEFT

Effective Field Theory

BSM models

Physics potential
of future colliders

CHRISTOPHE GROJEAN

DESY leading scientist (Hamburg)
and professor at Humboldt
University (Berlin)

Interests:

Collider physics
(past, present and future)

Higgs physics

BSM physics

SVEN HEINEMEYER

Profesor de Investigacion

IFT (UAM/CSIC), Madrid, Spain

Interests:

Higgs and BSM physics in concrete models

Precision Calculations

HL-LHC vs. e+e-

SUNGHOON JUNG

Associate Professor
Seoul National University, Korea

Interests:
Future colliders
EFT for Higgs precision
BSM physics

WE WANT YOUR IDEAS

Big Picture Questions

What can we learn from the low energy m_Z and $2m_W$ ILC?

Gains going from 250 GeV to 1 TeV ILC?

Benefits of polarized beams?

More Detailed Questions

What inputs to a global fit need are the weakest links?

Can we develop optimal ways of combining ILC and LHC
(or other collider) information?

Can the ILC distinguish SMEFT from HEFT?

What are the limitations of SMEFT truncated to
dimension 6?

How best to include exotic Higgs decays?

[Your questions here!]

see ILC Study questions [arXiv: 2007.03650]

UPCOMING EVENT

The Global Interpretations working group
is helping to organize the upcoming
IDT-WG3-Phys Open Meeting on June 17.

There will be two 30 minute talks:
(Speakers are TBD)

(1) Status update on EFT fits
(emphasis on limitations)

(2) Connecting UV models to EFTs

https://agenda.linearcollider.org/event/9239/