

The 15th TeV Working Group Meeting: Summary

Qing-Hong Cao
Peking University

Excellent talks covering very diverse topics

19 Plenary talks

* Collider physics

ATLAS (Lei Zhang)

CMS (Jin Wang)

LHCb (Jibo He)

CEPC (Haijun Yang)

Higgs Physics (Hao Zhang)

Top physics and EFT (QHC)

* Non-collider physics

Neutrino (Zhi-zhong Xing, Wei Wang)

Dark Matter (Qian Yue, Xiaopeng Zhou, Xiang Li, Jia Liu)

Cosmology (Xin Zhang, Lijing Shao, Liaotao Wang,
Qing-Guo Huang, Yiming Hu, Yifu Cai)

* Future plan — snowmass (Tao Han)

42 Parallel talks (#Non-collider >> #collider)

In the era of data mining ...

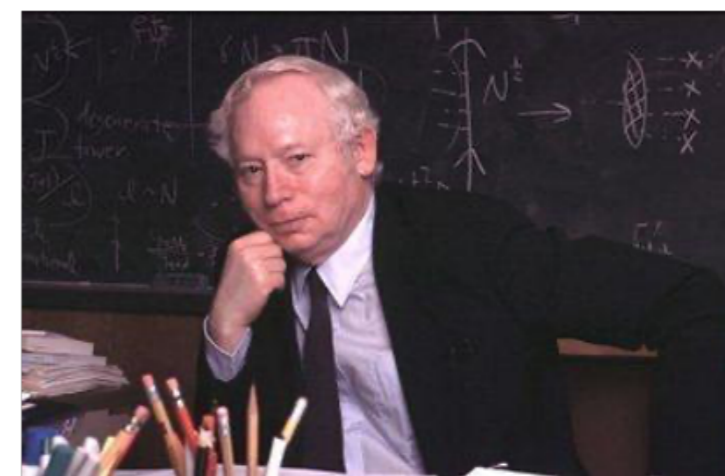
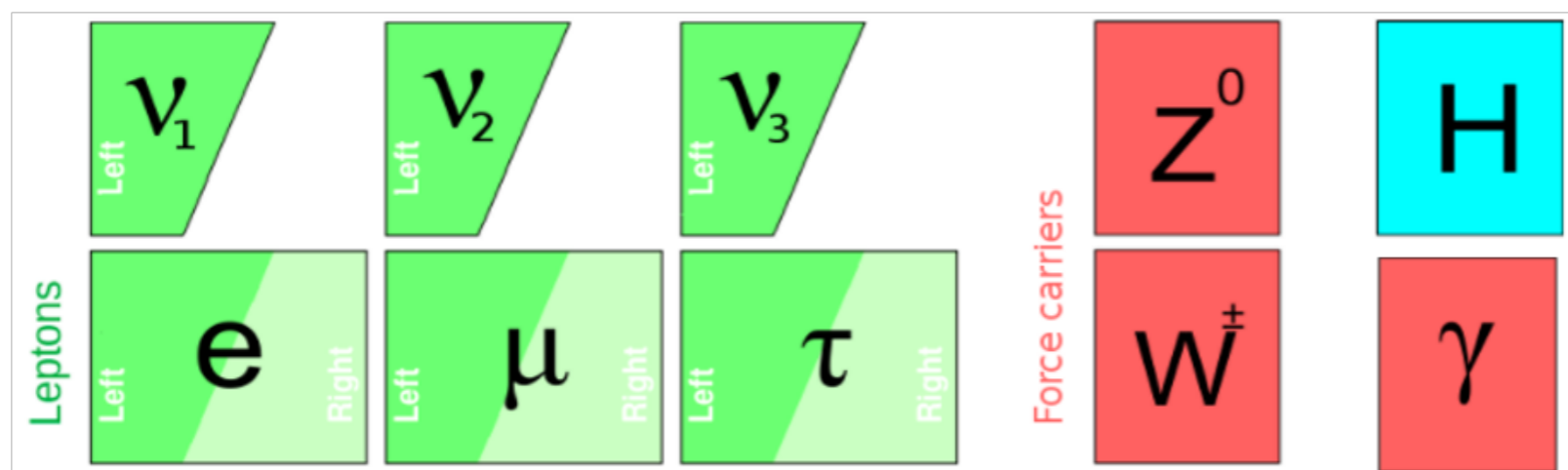
★ In the lack of a powerful *top-down* guiding principle, most of us are following a *bottom-up* way according to our *own* tastes.

What is wrong with the SM?

In October 1967, **Steven Weinberg** proposed **a model of leptons**.

— its **theoretical ingredients** are perfect!

— its **particle content** looks very strange: it has **no** quark flavors, **no** neutrino masses, **no** flavor mixing and **no** CP violation.



My style is usually **not to propose specific models** that will lead to specific experimental predictions, but rather to interpret in a broad way what is going on and **make very general remarks**, like with the development of the point of view associated with **effective field theory** ---- **Weinberg 2021@CERN Courier**

A era of precision measurement

Collider

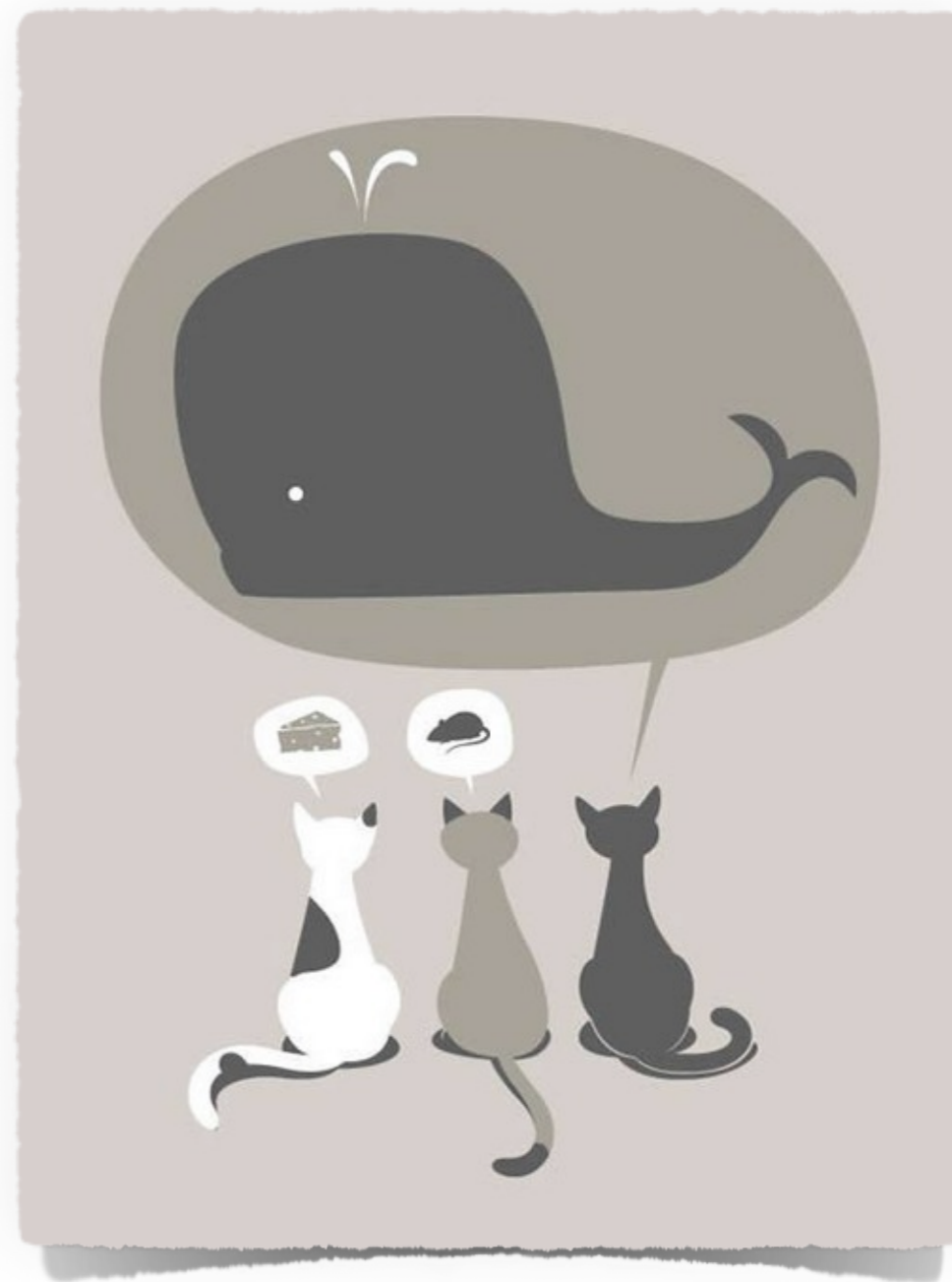
EXP: Higgs property, VBS (aQGCs, dim-8 operators, ...)

TH: NLO \rightarrow NNLO \rightarrow NNNLO \rightarrow

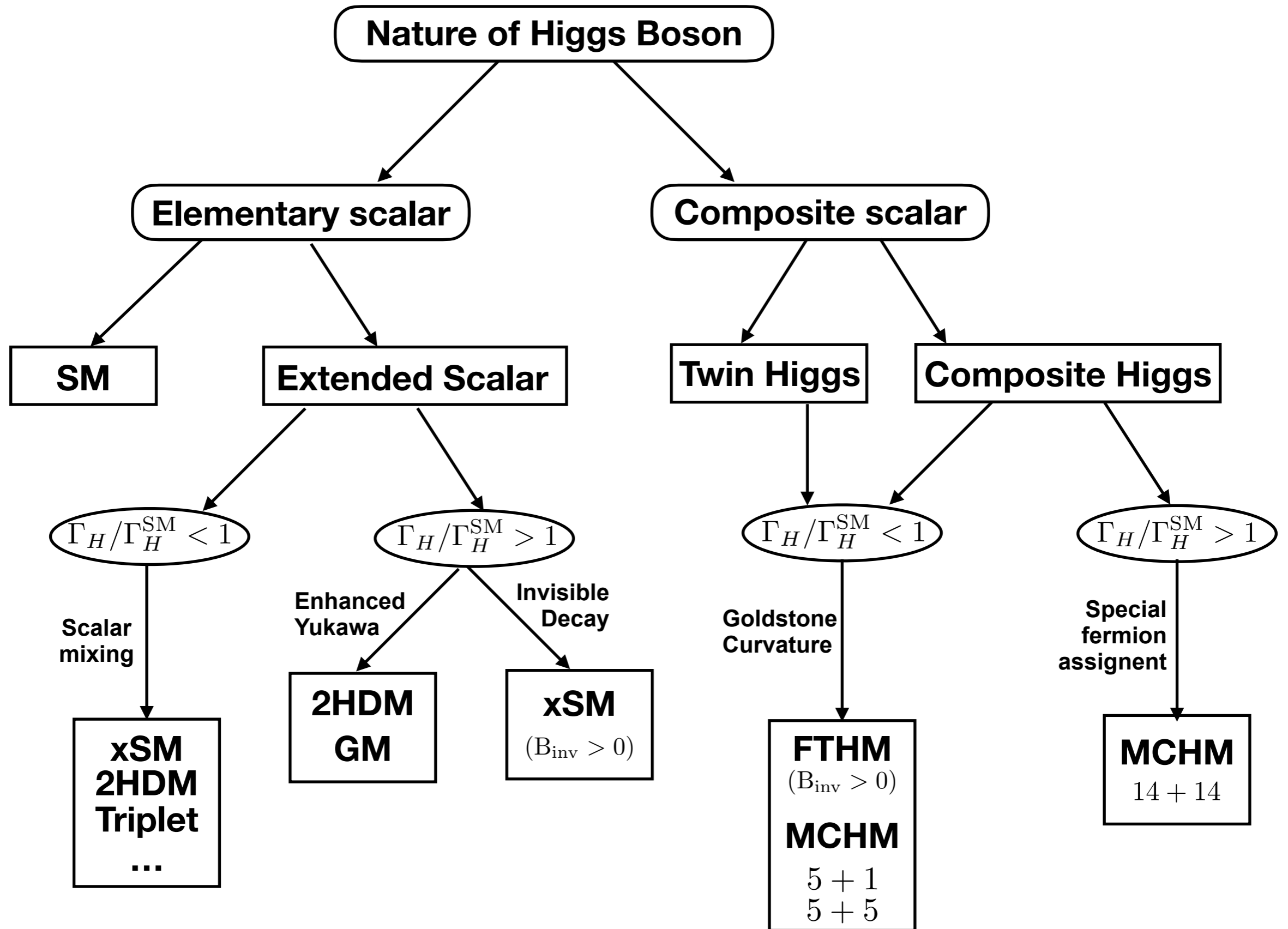
Neutrino: Mass ordering, CPV, Majorana?

Dark Matter: Neutrino floor

Cosmology: GW, BH ...



Yes, so what?





- Higgs potential and BSM opportunity
 - <https://indico.ihep.ac.cn/event/14180/>
- Scope including
 - Higgs precise measurements, Higgs potential, EWPT, extra Higgs or scalars, etc.



Let's meet, drink
and excite more Higgs bosons

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本次会议 的新动向 — 广告贴

第二届“深地液氙暗物质、中微子研讨会”

7-9 August 2021
Tsung-Dao Lee Library
Asia/Shanghai timezone

Overview

Timetable

Participant List

PandaX-4T实验已经开始试运行, 获得了第一批数据, 但国际竞争也异常激烈。为了探讨PandaX-4T上的暗物质、中微子物理方面的具体研究, 我们拟于八月初召开PandaX-4T实验合作组会议(8月7-8日)、以及第二届“深地液氙暗物质、中微子研讨会”(8月9日)。会议的主要目的是PandaX的实验家和国内理论家深入讨论、碰撞, 期望在新物理上确定一系列有科学意义的主攻方向, 开展合作研究。



Starts 7 Aug 2021, 08:00
Ends 9 Aug 2021, 19:00
Asia/Shanghai



Tsung-Dao Lee Library
Tsung-Dao Lee library-Fourth Floor-410 - 410#
Meeting Room

SUSY 2021

Aug. 23-28, Beijing

abstract submission deadline: Aug 1st

Register now!

<https://indico.cern.ch/event/875077/>



**The XXVIII International Conference on
Supersymmetry and Unification of Fundamental
Interactions (SUSY 2021)**

23-28 August 2021

Asia/Shanghai timezone

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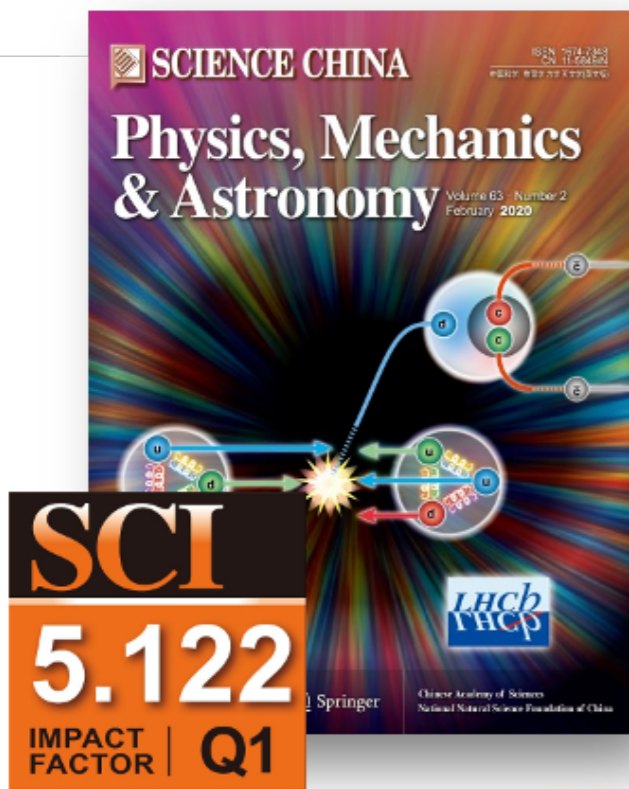
Pre-SUSY summer school @ UCAS

Aug. 9-20, available online

SUSY提交报告截止时间：8月1日

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Junjie Cao, Jibo He, Xin Zhang, Qingguo Huang, Yifu Cai

Cover Story

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Daya Bay Collaboration
DOI: 10.1088/1674-1137/abfc38

$$\bar{\nu}_e + p \rightarrow e^+ + n$$



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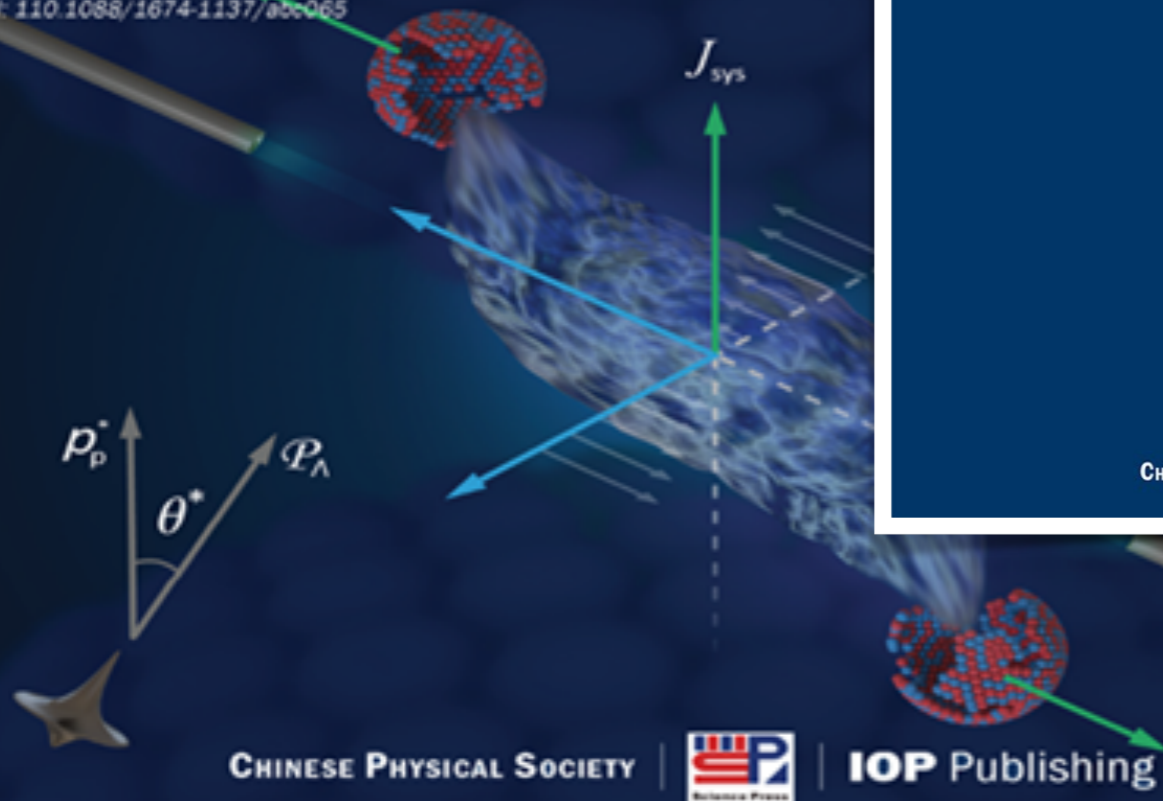


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Rapidity dependence of global polarization in heavy ion collisions
Zuo-Tang Liang, Jun Song, Isaac Upsal, Qun Wang and Zhangbu Xu
DOI: 10.1088/1674-1137/abc065



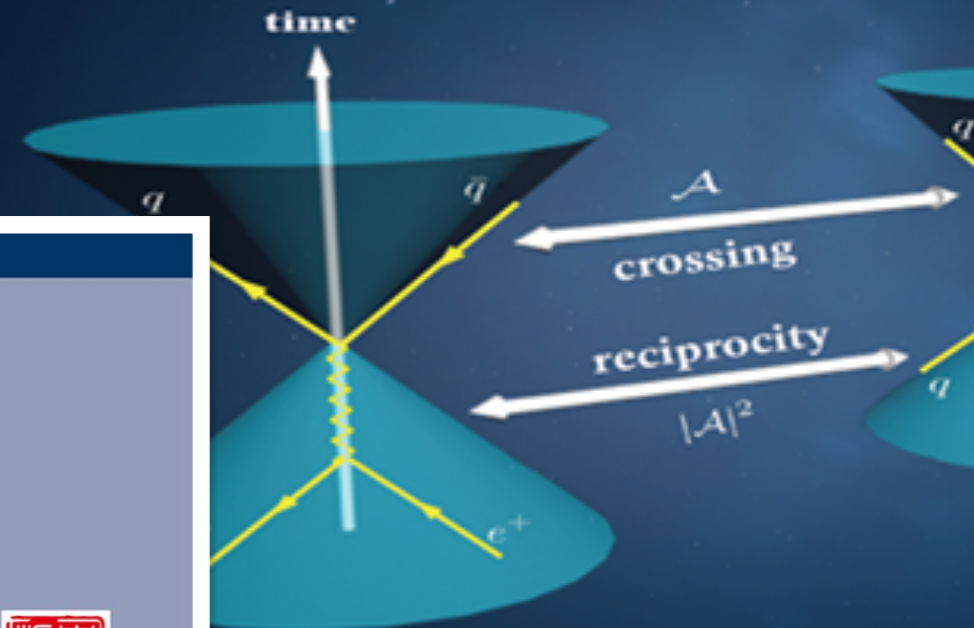
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Hao Chen, Tong-Zhi Yang, Hua-Xing Zhu, Yu-Jiao Zhu
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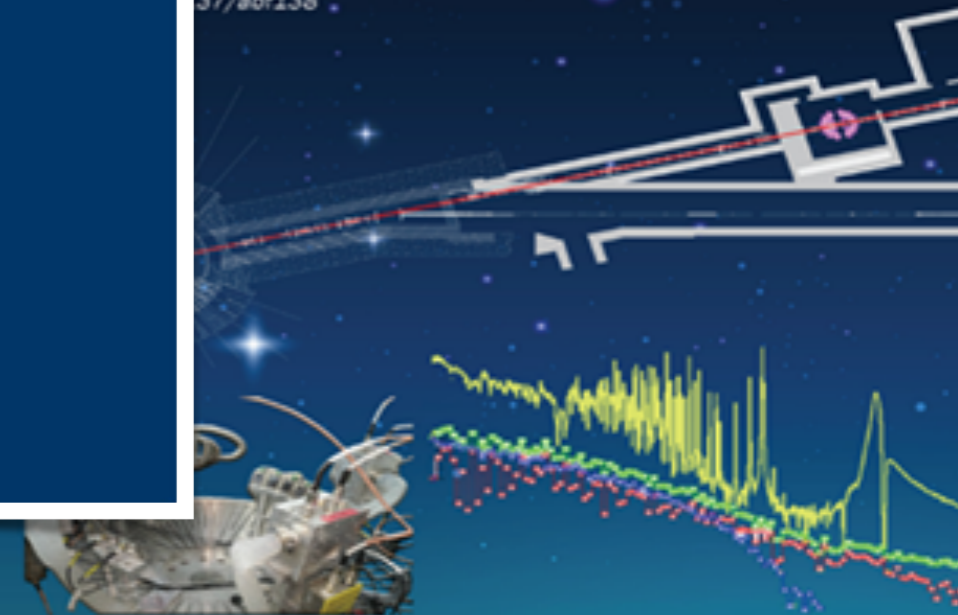


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致谢!

第十五届TeV物理工作组学术研讨会
15th Workshop on TeV Physics
2021.07.19

北京科学会



特别感谢安海鹏老师、吕律老师、学生志愿者!