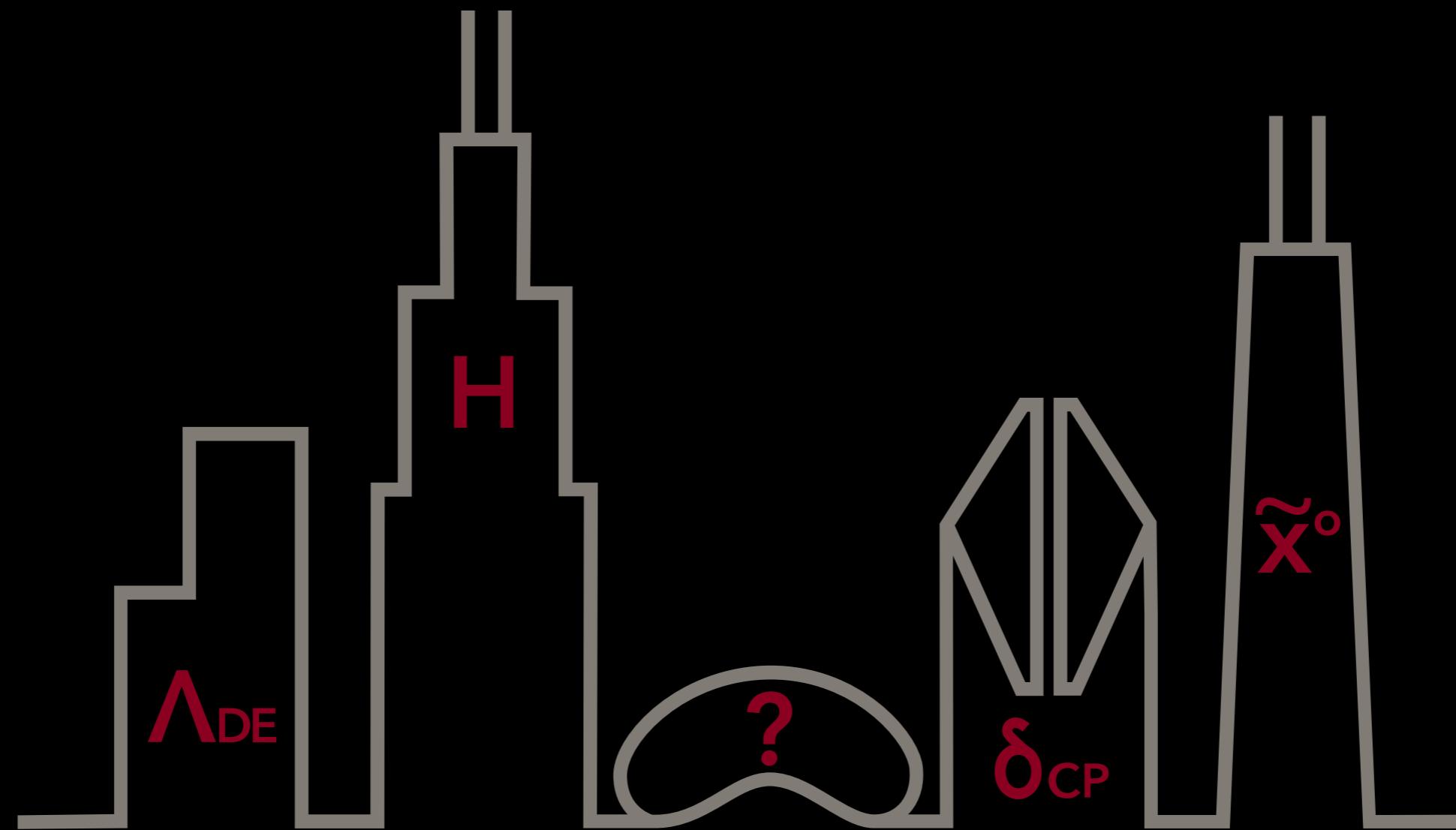


Elevator Poster Presentations



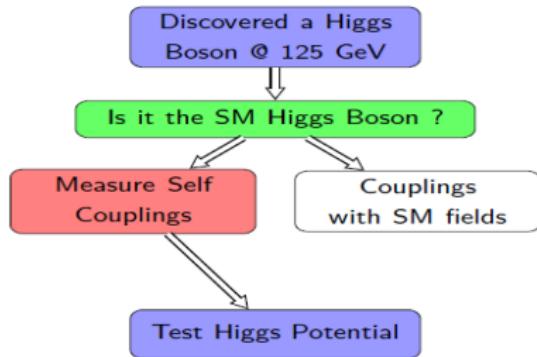
ICHEP2016CHICAGO

Charanjit Kaur Khosa

CHEP, Indian Institute of Science, Bangalore, India

Measuring the trilinear Higgs boson couplings in the MSSM at e^+e^- colliders

Charanjit Kaur Khosa, CHEP, Indian Institute of Science, Bangalore, India

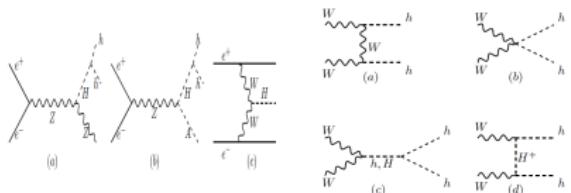


$$V_{SM}^h = \frac{m_h^2}{2} h^2 + \lambda_{hhh} \frac{h^3}{3!} + \lambda_{hhhh} \frac{h^4}{4!}$$

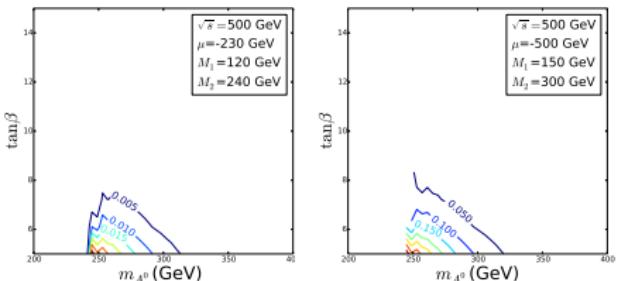
MSSM Higgs Sector : h (SM-like), H, A, H^\pm

$$\lambda_{Hhh} = 2 \sin 2\alpha \sin(\beta + \alpha) - \cos 2\alpha \cos(\beta + \alpha)$$

$$\lambda_{hhh} = 3 \cos 2\alpha \sin(\beta + \alpha)$$



$$\Gamma(H \rightarrow hh) = \frac{G_F \lambda_{Hhh}^2}{16\sqrt{2}\pi} \frac{m_Z^4}{m_H} \left(1 - 4 \frac{m_h^2}{m_H^2}\right)^{1/2}$$

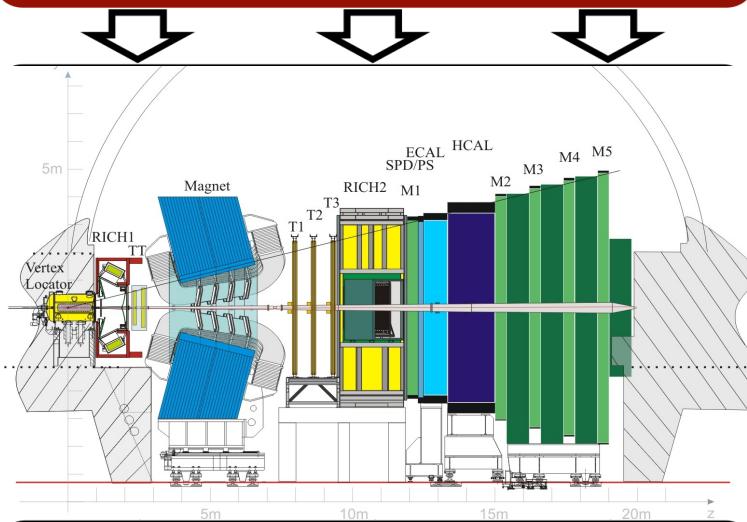


The contours of $\sigma(H) \times BR(H \rightarrow hh)$ (fb) for $\sqrt{s}=500$ GeV.

Emanuele Michielin

University of Padova - INFN
LHCb collaboration

40 MHz bunch crossing rate



L0 Hardware Trigger : 1 MHz readout, high E_T/P_T signatures

450 kHz
 h^\pm

400 kHz
 $\mu/\mu\mu$

150 kHz
 e/γ

Software High Level Trigger

Partial event reconstruction, select displaced tracks/vertices and dimuons

Buffer events to disk, perform online detector calibration and alignment

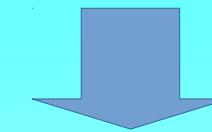
Full offline-like event selection, mixture of inclusive and exclusive triggers

12.5 kHz (0.6 GB/s) to storage

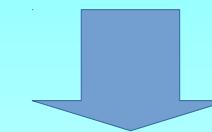
The LHCb Trigger in Run II

Emanuele Michelin on behalf of the LHCb collaboration

First HEP experiment implementing a fully automatic tracking system alignment, PID calibration and track reconstruction in real-time



Offline-quality information available at the trigger level



Real-time analysis in the on-line system

Link to the Poster:

https://indico.cern.ch/event/432527/contributions/1071501/attachments/1321322/1981617/poster_ICHEP.pdf

LHCb-PROC-2015-011

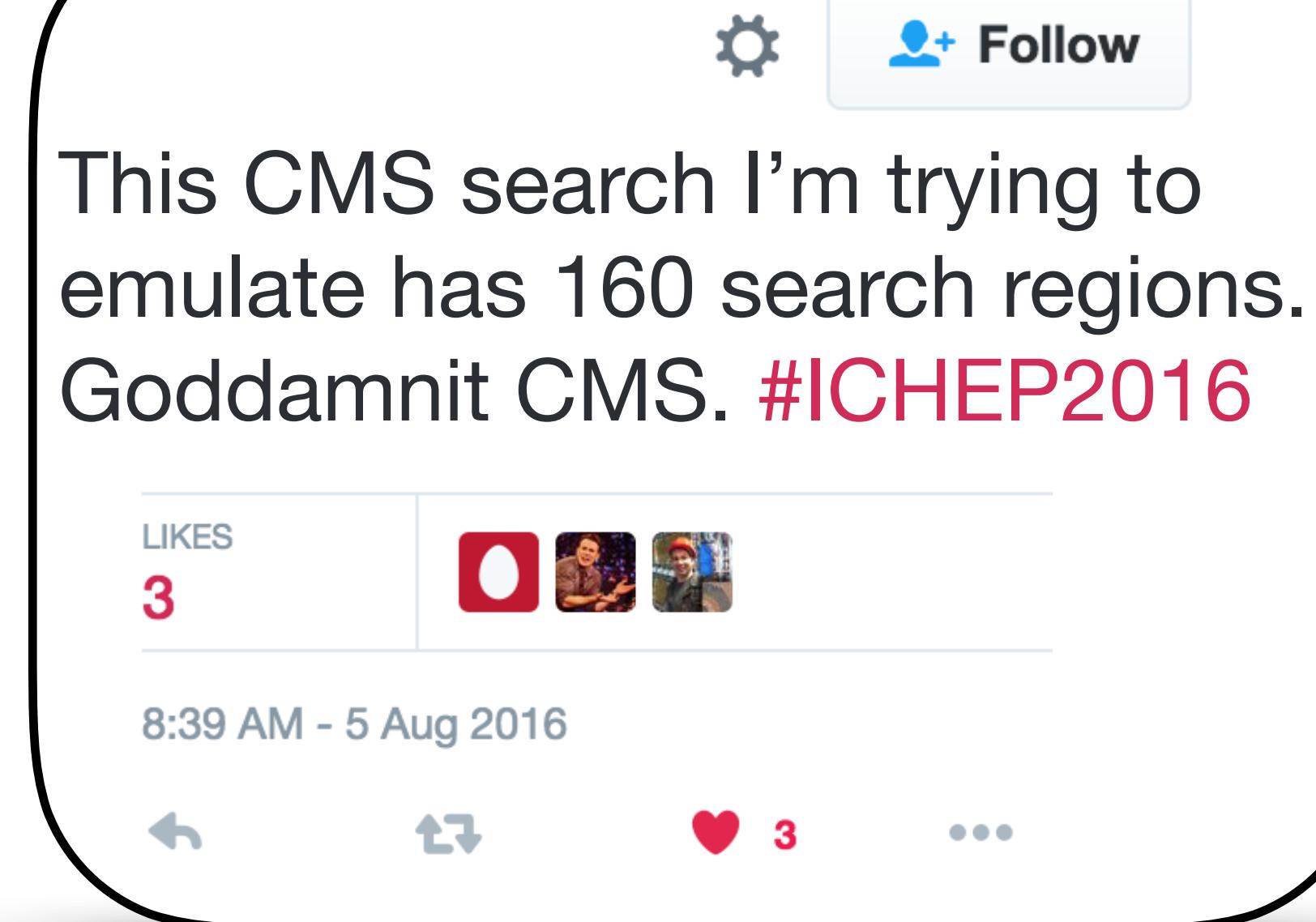
arXiv:1604.05596



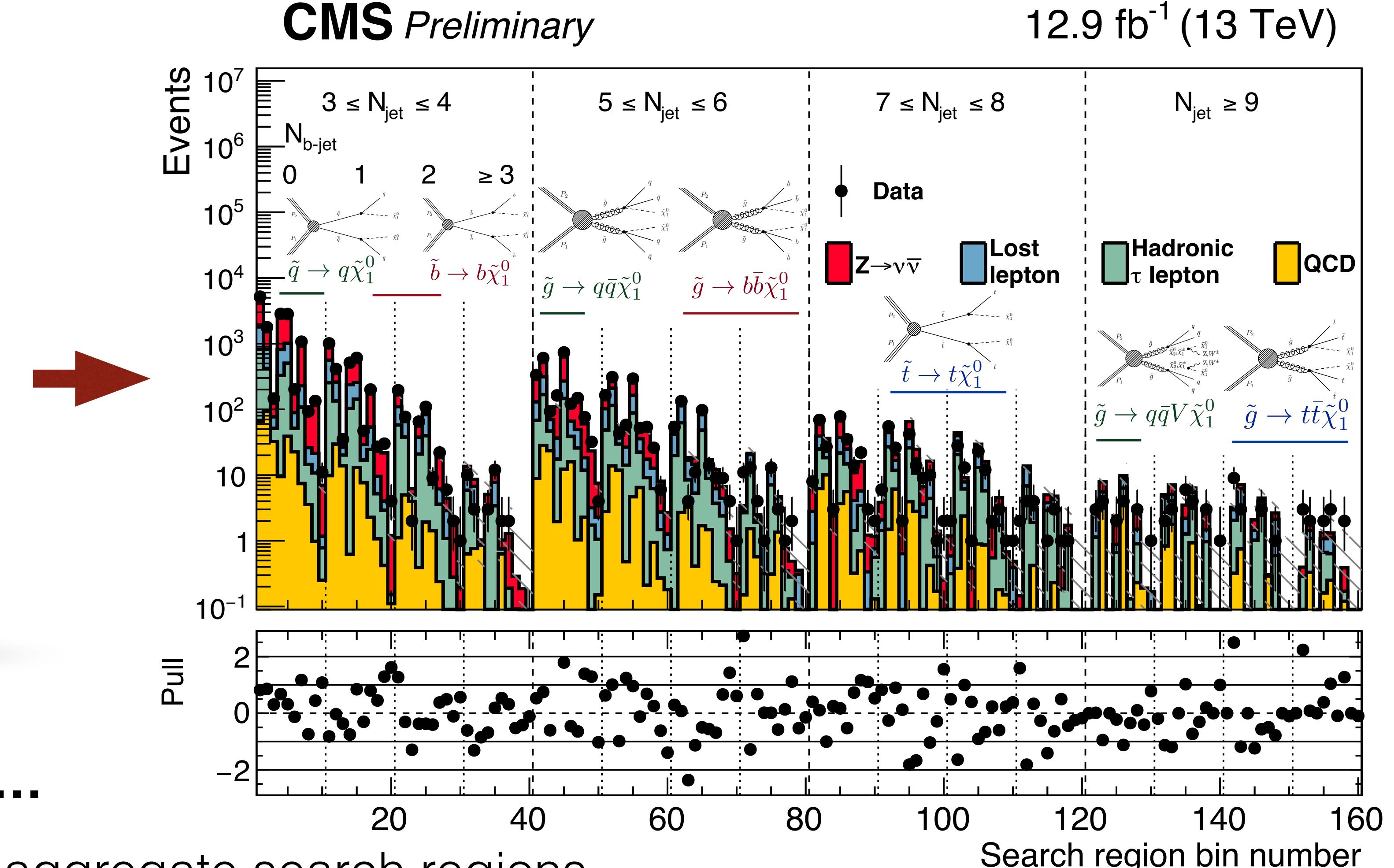
Jack Bradmiller-Feld

UC Santa Barbara
CMS Collaboration

We're twitter-famous!



★ Yes, our search has 160 bins...



- But now we **also** provide results in aggregate search regions.
- Essentially **12 standalone one-bin cut-and-count searches** that should be easier to re-interpret!
- Theorists: is something like this useful?

Jacob Kempster

Royal Holloway, University of London

CP VIOLATION IN B -MESON DECAYS USING $l+jets$ $t\bar{t}$ IN 8 TeV ATLAS DATA

Hey! CPV Mixing $> 3\sigma$ from SM!

But we measure with SM-agreement...

Maybe it's direct CPV! b - and c - decays

THEORIST

STANDARD MODEL

Possible to measure CP violation asymmetries Sensitivity to direct CP violation asymmetries

This will help!

LHCb

ATLAS EXPERIMENT

$$Ass(os)(A_{\text{mix}}, A_{\text{dir}}) = \frac{P(\mathbf{b} \rightarrow l^{+(-)}) - P(\bar{\mathbf{b}} \rightarrow l^{-(+)})}{P(\mathbf{b} \rightarrow l^{+(-)}) + P(\bar{\mathbf{b}} \rightarrow l^{-(+)})}$$

μ^\pm \bar{b} W^- t g t W^+ b ν

$a_{sl}^d [\%]$

$D0 D_s \mu\nu X$ $LHCb D^* \mu\nu X$ $D0 D^* \mu\nu X$

$D0 D_s \mu\nu X$ $LHCb D^* \mu\nu X$ $Babar D^* l\nu$ $Babar ll$ $Belle ll$

[1]

A_{dir}^c A_{dir}^b

$A_{\text{dir}}^{bl} \sim 0.003$

$A_{\text{dir}}^{cl} \sim -0.009$

[2]

$A_{\text{dir}}^{bl} < 10^{-7}$

$A_{\text{dir}}^{cl} < 10^{-11}$

[3]

Hmm, but that's not what I expected...

$t\bar{t} t\bar{t} t\bar{t} t\bar{t}$

L H C

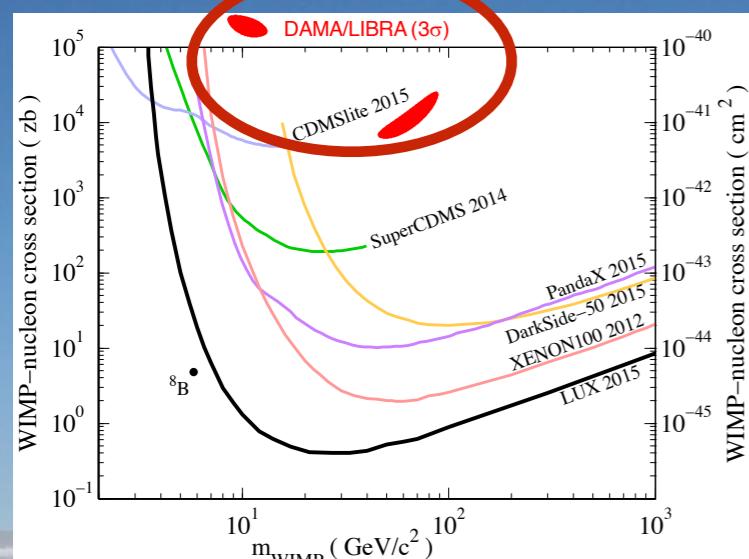
Jay Hyun Jo

Yale University

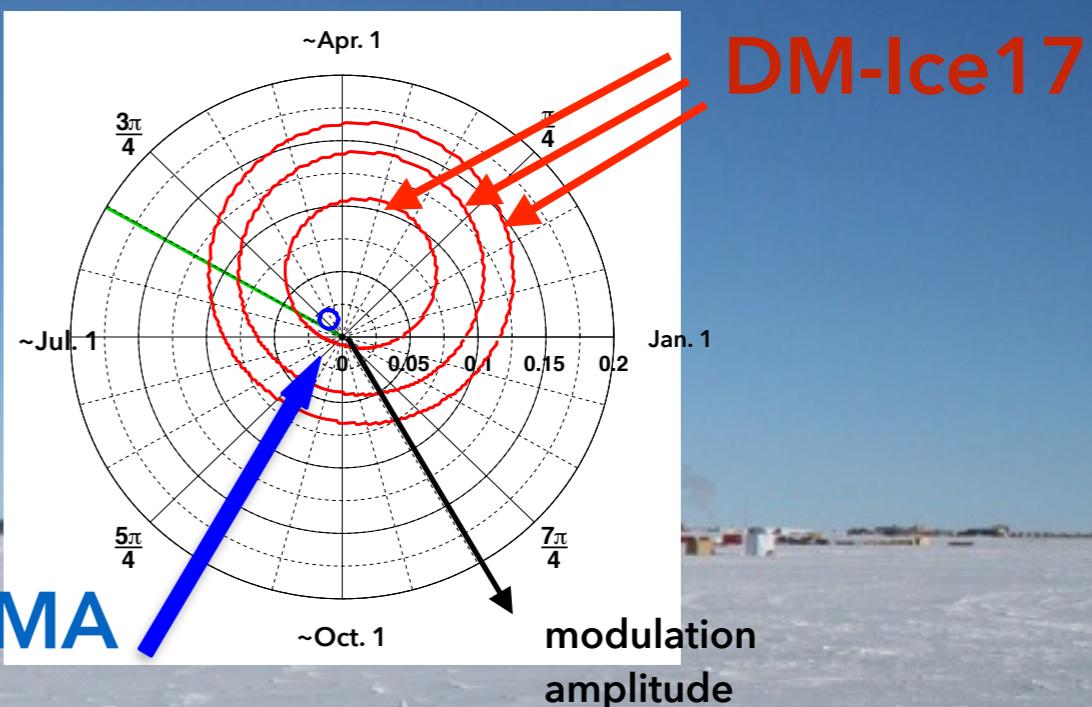
Results of the DM-Ice17 Dark Matter Experiment at the South Pole

Jay Hyun Jo, Yale University

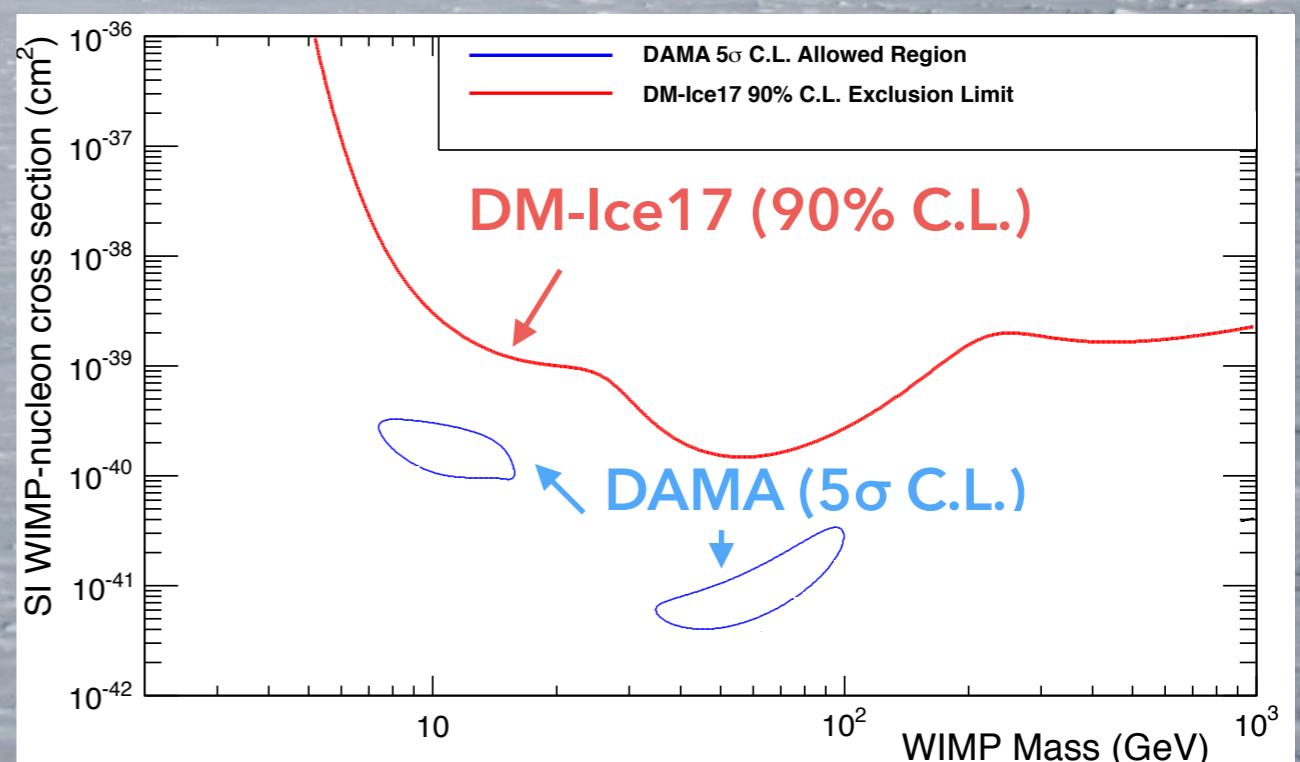
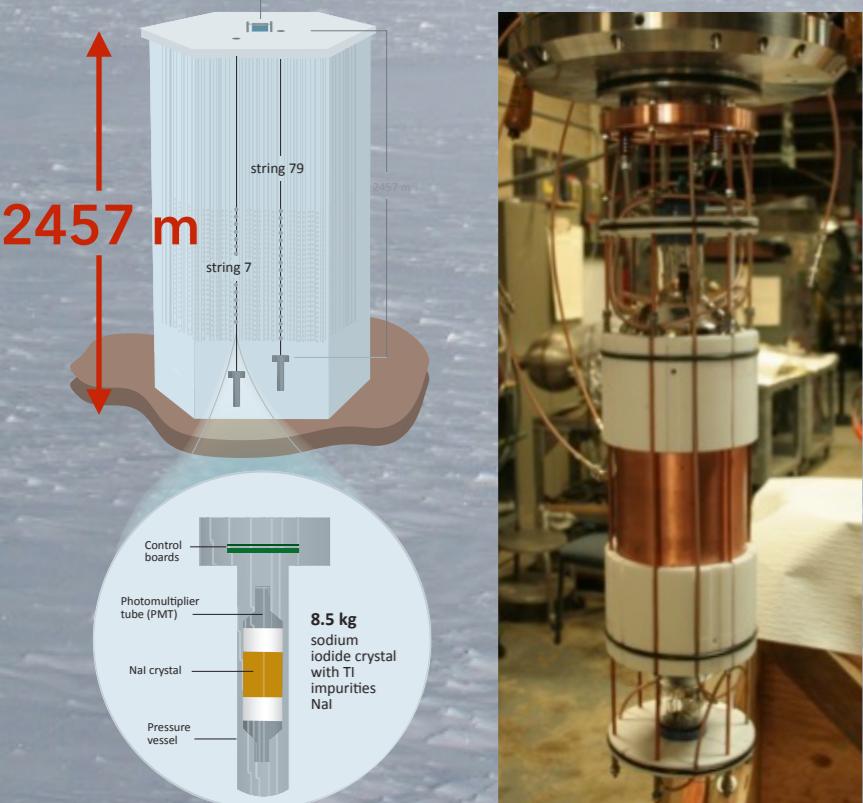
Tension in Dark Matter Search



Dark Matter Search at the South Pole Works!



Going to the South Pole...



Luigi Marchese

Oxford University



**LUIGI Marchese, Oxford university,
on behalf of the CDF collaboration
REAR WINDOW on the charm production**



Colour by
QCD



UNIVERSITY OF
OXFORD



**LUIGI Marchese, Oxford university,
on behalf of the CDF collaboration
REAR WINDOW on the charm production**



Colour by
QCD



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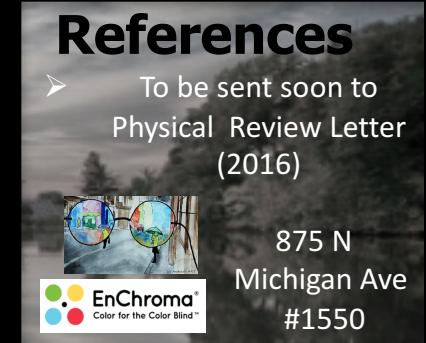
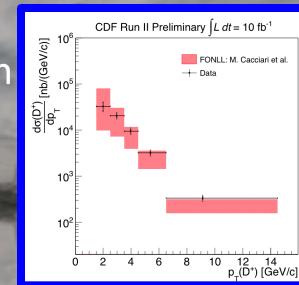


- ## Why
- Non-perturbative QCD
 - Theoretical models have big uncertainty at low p_T
 - Study of the c -quark production

- ## How
- Optimization of the selection
 - 2D Fit
(mass, impact-parameter)



- ## Result
- The D^+ -meson production cross-section, p_T -AVERAGED and y -INTEGRATED has been measured at CDF



POSTER

Measurement of low- p_T charm-meson production cross-section at CDF



Colour by
QCD



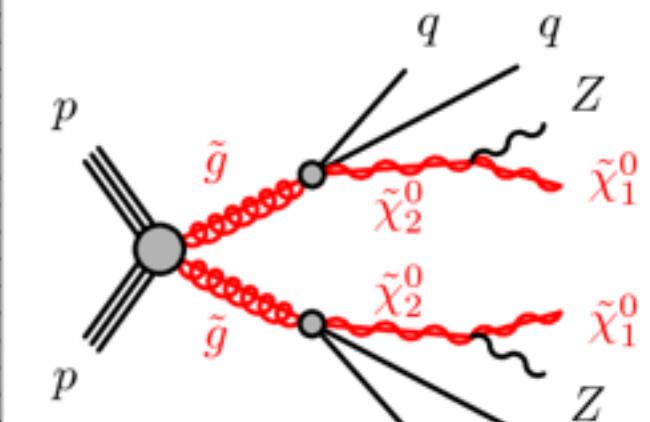
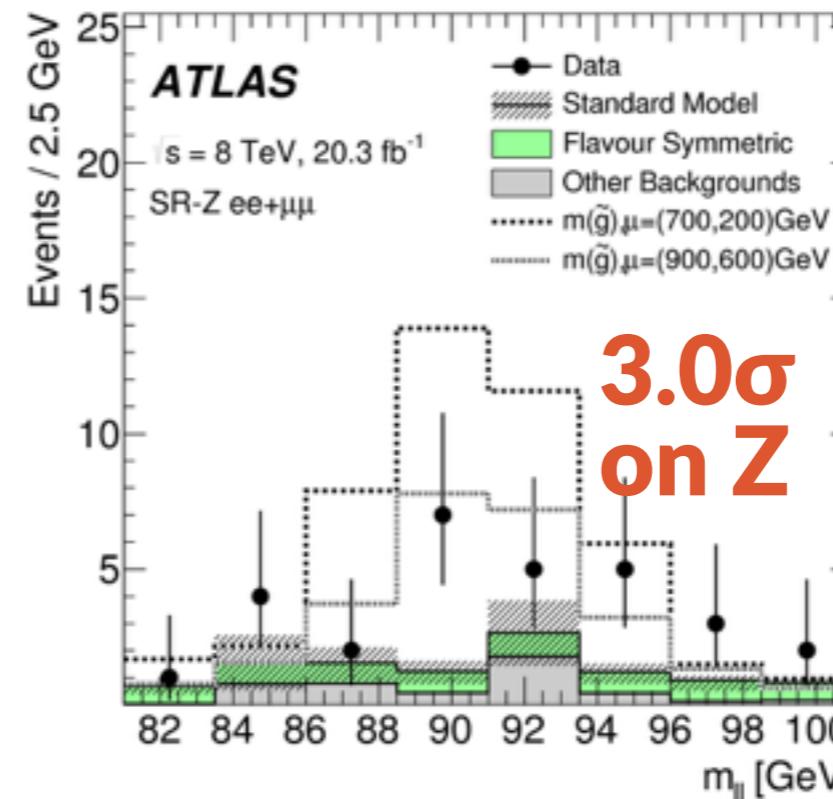
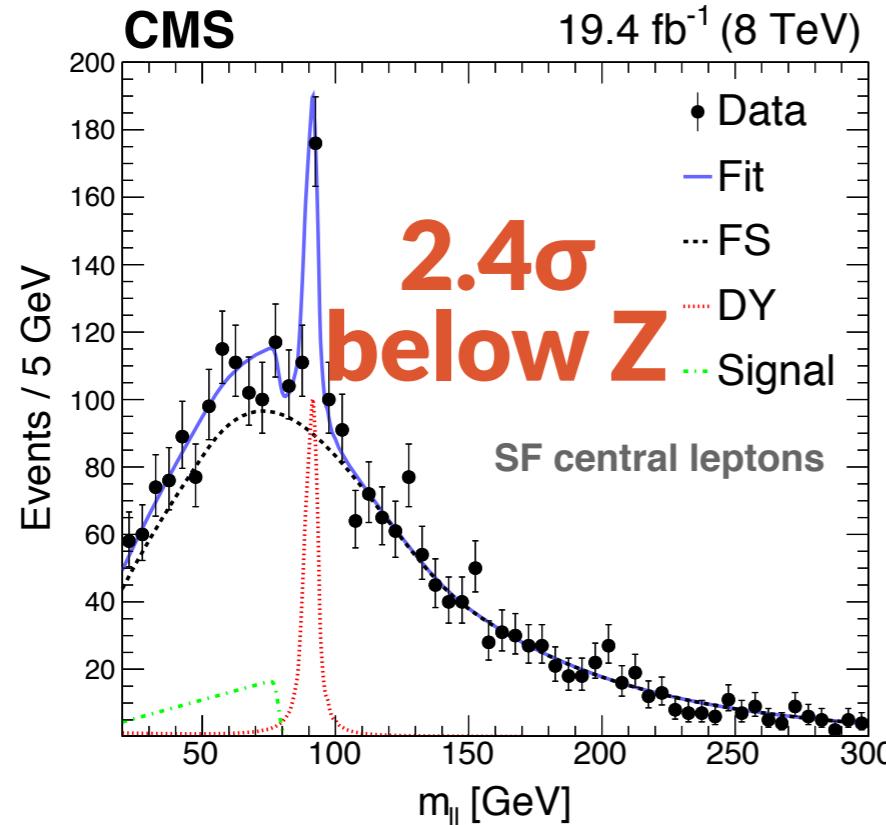
Tova Holmes

Lawrence Berkeley National Laboratory

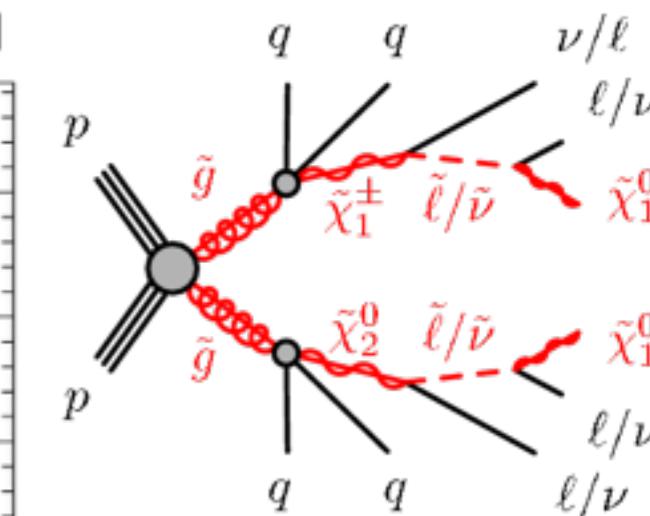
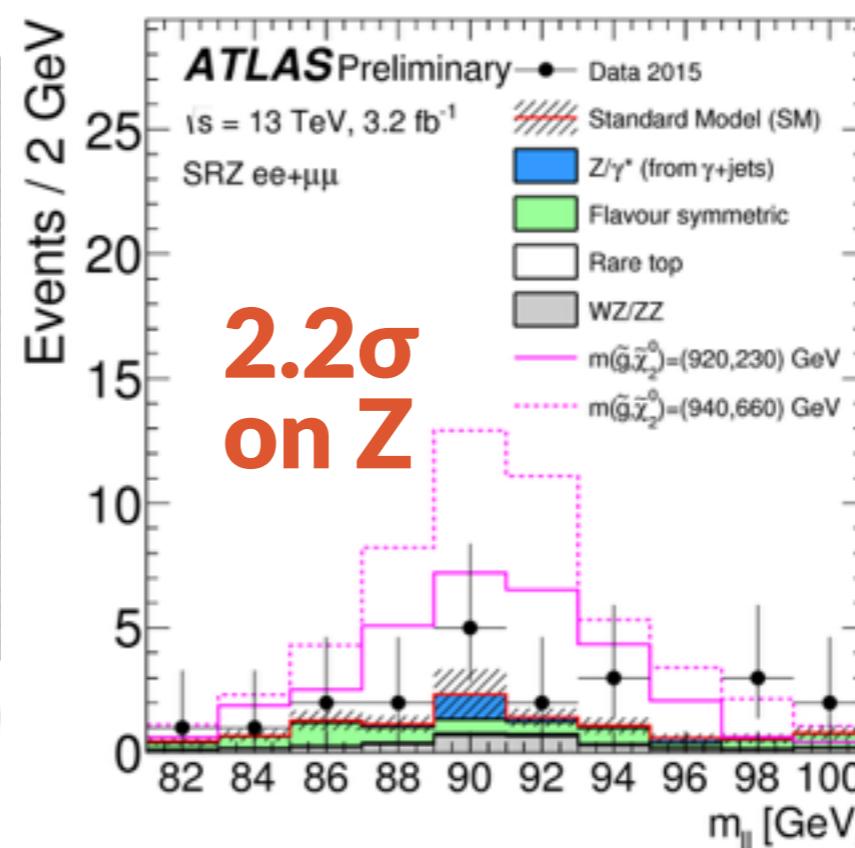
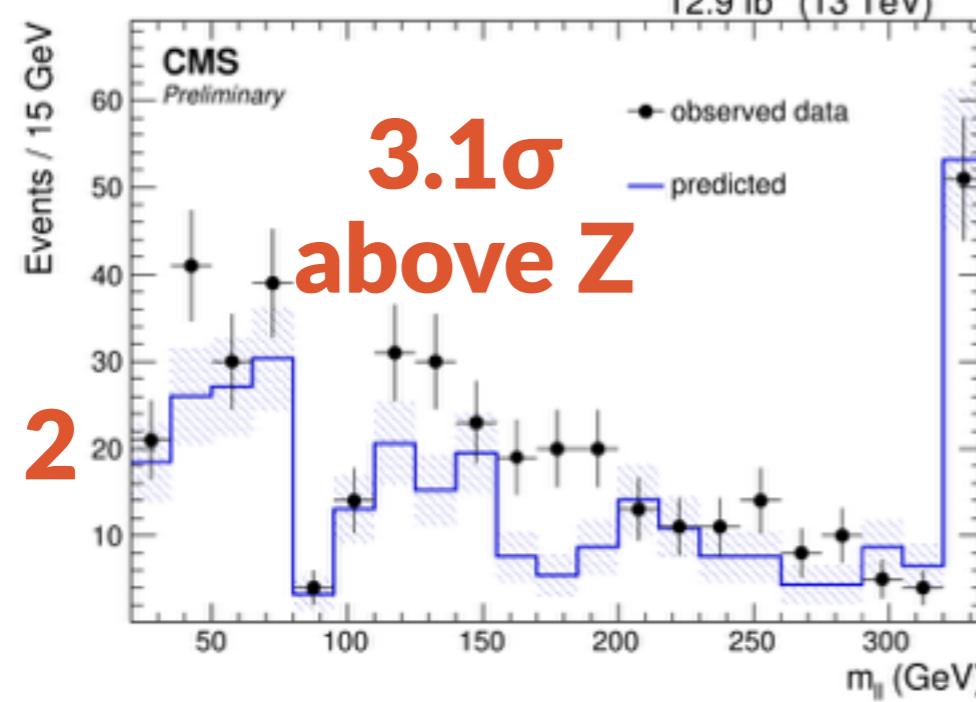
2 LEPTON SUSY A CONFUSING HISTORY

Tova Holmes, Lawrence Berkeley National Lab. Poster: <https://indico.cern.ch/event/432527/contributions/1072156/>

Run 1



Run 2



Thank you to our speakers!

- Charanjit Kaur Khosa
- Emanuele Michielin
- Jack Bradmiller-Feld
- Jacob Kempster
- Jay Hyun Jo
- Luigi Marchese
- Tova Holmes