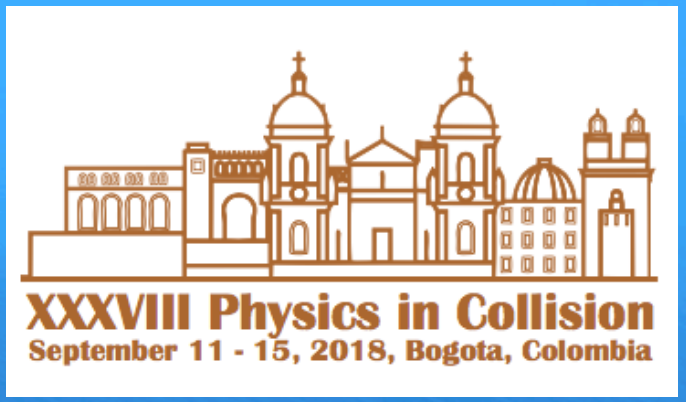

XXXVIII Physics in Collision

11-15 September, Bogota, Colombia
Closing remarks

XXXVIII Physics in Collision
September 11 - 15, 2018, Bogota, Colombia

- We saw many interesting talks and results from several experiments
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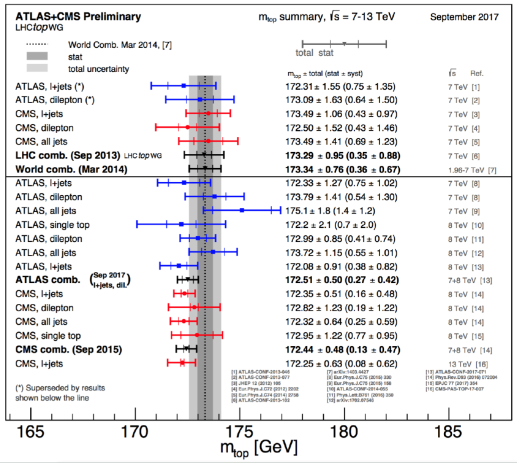
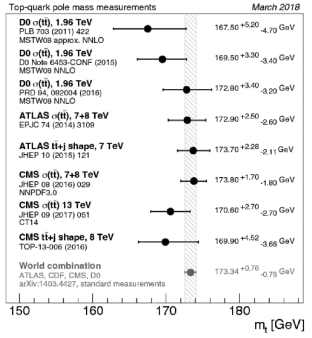
- Comprehensive overview of results across several fields

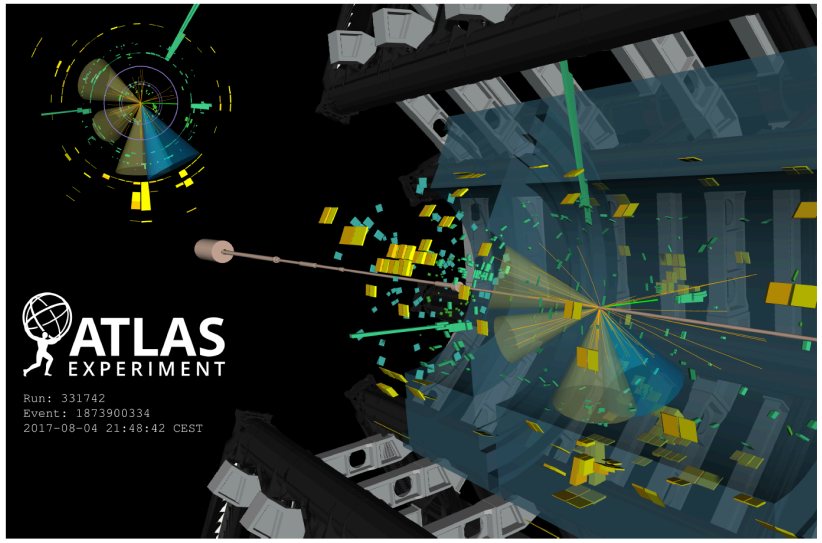
Summary of top mass measurements



Some newer measurements not included yet



Example candidate for ttH, H->gamma gamma in lepton+jet final state



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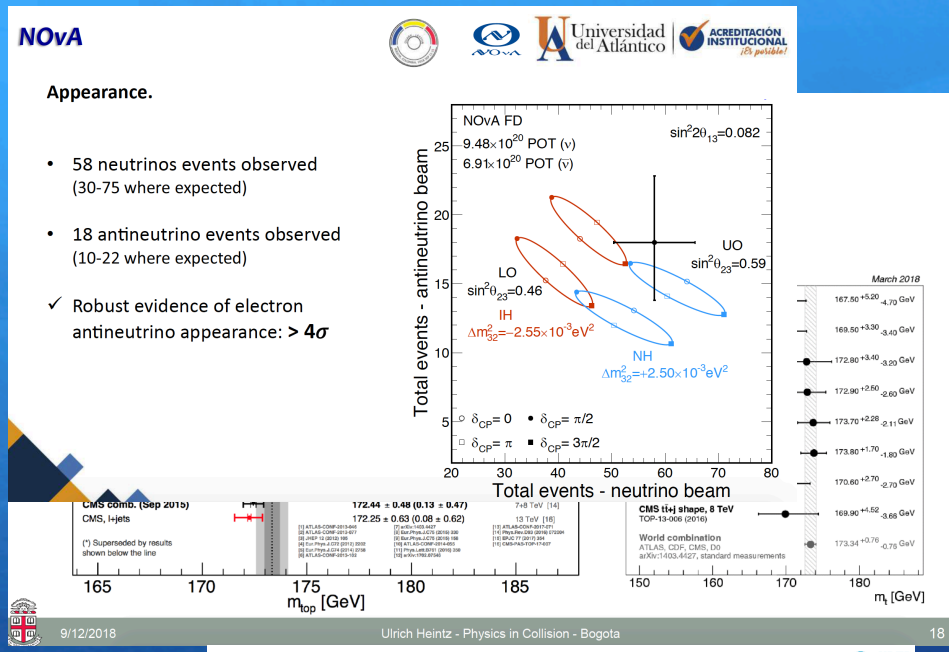

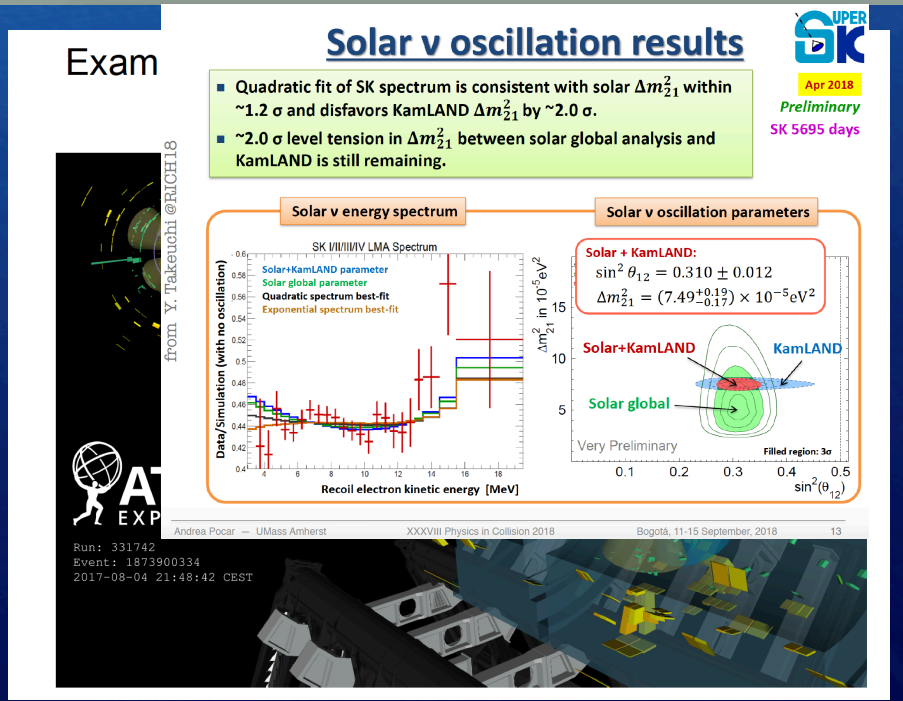

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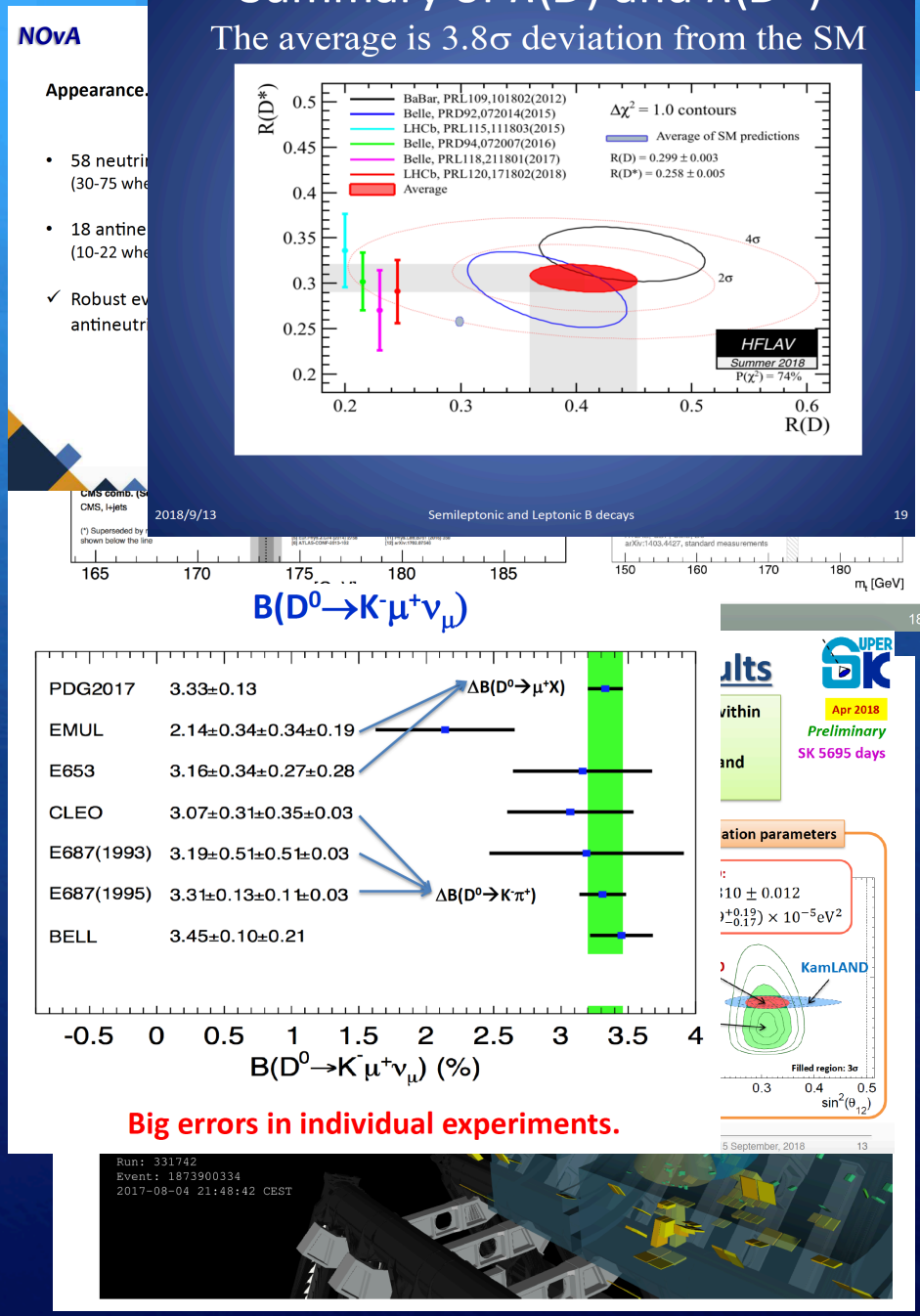

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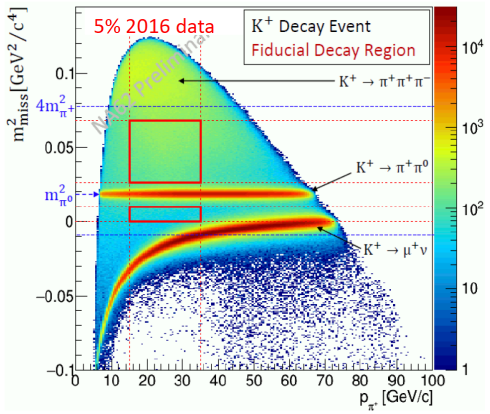
Summary of $R(D)$ and $R(D^*)$

The average is 3.8σ deviation from the SM

NOvA

NA62: Kinematics

$m^2_{miss} = (p_K - p_\pi)^2$



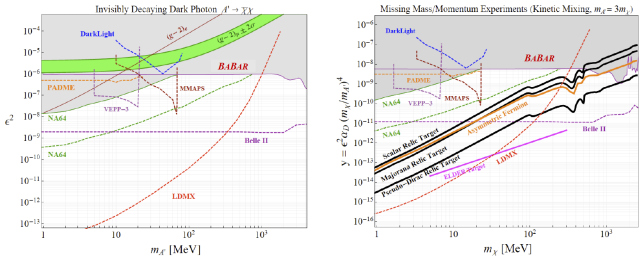
13/09/2018 F. Bucci PIC2018 20

EMUL 2.14±0.34±0.34±0.19
E653 3.16±0.34±0.27±0.28
CLEO 3.07±(
E687(1993) 3.19±(
E687(1995) 3.31±0
BELL 3.45±(

-0.5 0 0.

New ideas abound – The Cosmic Visions Workshop

US Cosmic Visions: New Ideas in Dark Matter 2017
Community Report
arXiv:1707.04591v1 [hep-ph] 14 Jul 2017



- The workshop considered WIMP, Hidden Sector and Ultralight Dark Matter and a suite of experiments to extend the sensitivity of direct detection and accelerator-based searches
- I will discuss the *BABAR* contribution to current dark matter/dark photon search limits and add a few words about LDMX, a proposed future experiment to improve low mass sensitivity

Caltech David Hitlin Physics in Collision September 14, 2018 11

Big err

Run: 331742
Event: 1873900
2017-08-04 21:

19

180
m_t [GeV]

18

SUPER SK
Apr 2018
Preliminary
SK 5695 days

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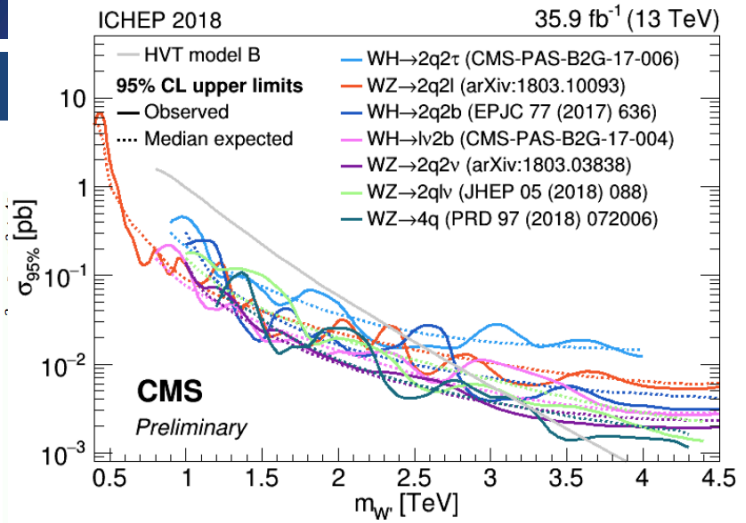
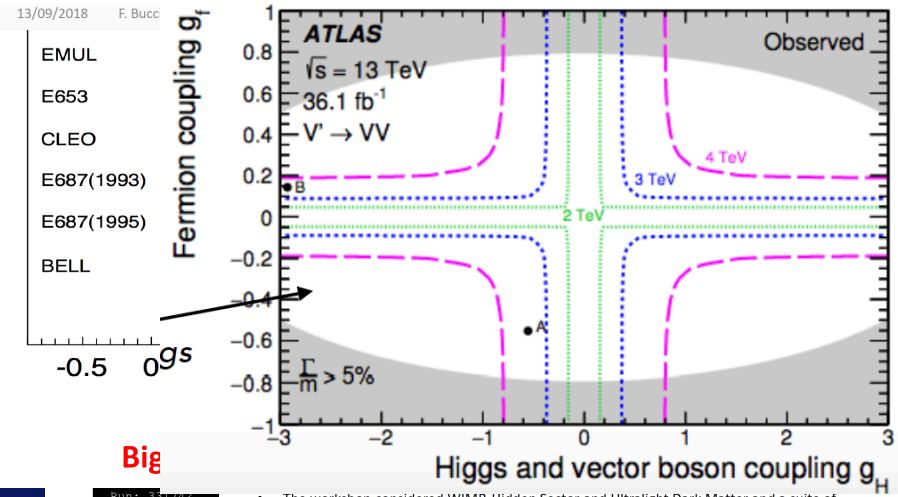
NOvA

Different final states



ATLAS: arxiV:1808.02380

VV combined



Big

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Different final states

NOvA

ICHEP 2018

35.9 fb^{-1} (13 TeV)

A zoo of binary black hole mergers

Actual data on losc.ligo.org

GW150914

GW151226

GW170104

GW170608

GW170814

SXS collaboration

4.5

EMUL

ATLAS

$\sqrt{s}$ = 13 TeV

Observed

Astrophysical Diffuse Neutrino Flux

IceCube South Pole Neutrino Observatory

Upward going muon* neutrino sample (8 years/2009-2016)

*Select muon induced by muon neutrino CC interactions

~880TeV upward through-going muon track event

Phys. Rev. Lett. 115, 081102 (2015)

High energy starting event** neutrino sample (7.5 years/2010-2017)

**Select neutrino events with outer layer detector as muon veto

E_{dep}~1PeV

Cascade + μ track

PRL 111 (2013) 021103

PRL 113, 101101 (2014)

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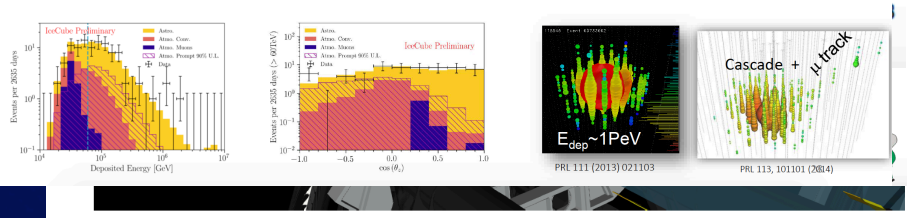

PRL 111 (2013) 021103

PRL 113, 101101 (2014)

- Around 15 posters
- Mix between local and international participants; young and senior scientists

XXXVIII Physics in Collision
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- Around 15 posters
- Mix between local and international participants; young and senior scientists
- Poster session prize: Catherine Ayuso

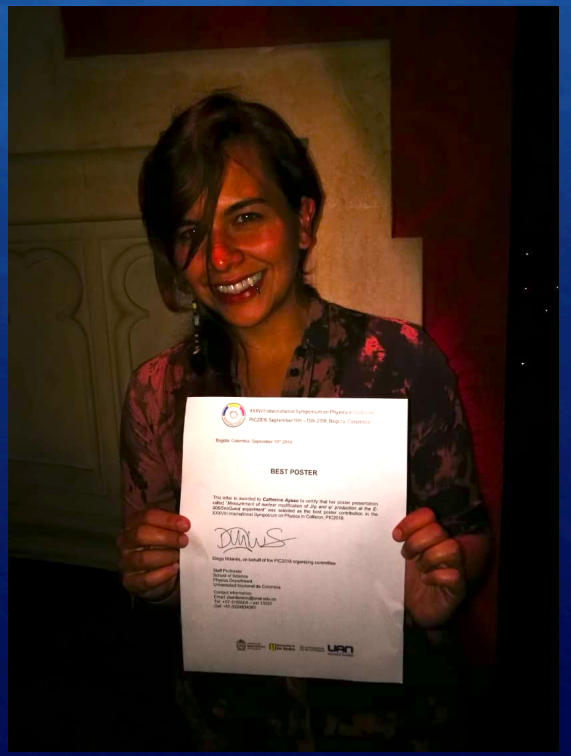
Measurement of nuclear modification of J/ψ and ψ' production at the E-906/SeaQuest experiment

Catherine Ayuso[1]

[1] *University of Michigan and FermiLab*

Corresponding Author(s): cayuso@umich.edu

A measurement of the suppression of J/ψ and ψ' production in high-energy heavy ion interactions has been suggested to be an important probe in identifying the presence and properties of quark-gluon plasma (QGP). However, a similar quarkonium production depletion observed in p-A interactions at lower energies makes it pivotal to understand the effects of cold nuclear matter (CNM). By doing so, it will be possible to not only kinematically isolate the sources of this suppression but also better constrain presumed QGP signatures. We perform measurements seeking to obtain a better quantitative understanding of this suppression due to CNM effects in the E906/SeaQuest experiment at Fermi National Accelerator Laboratory, a fixed-target experiment producing Drell-Yan, J/ψ and ψ' signals from a 120-GeV proton beam colliding with protons and different heavy nuclear targets. In this poster, we will discuss QGP and CNM effects on charmonium production in more detail and report the status of the analysis at SeaQuest as well as results from E-866, SeaQuest's predecessor with an 800-GeV incident proton beam.



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- Around 15 posters
- Mix between local and international participants; young and senior scientists
- Poster session prize: Catherine Ayuso
- 3 outreach talks

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BOGOTA, COLOMBIA, 2018 SEP 11 - 15

- Despite Diego's endless efforts:

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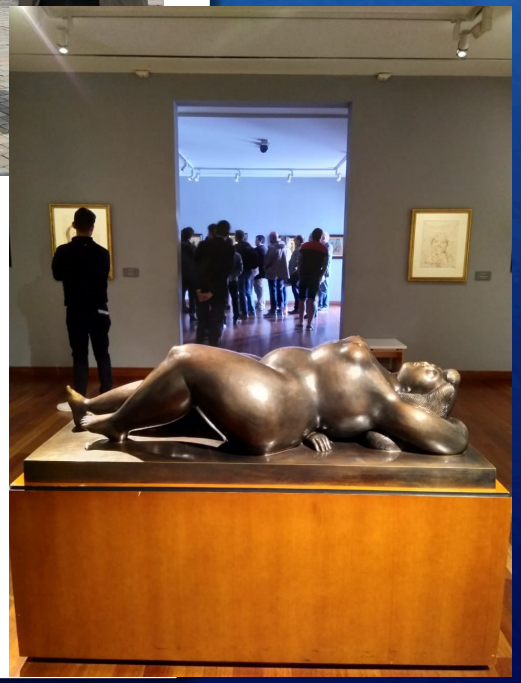

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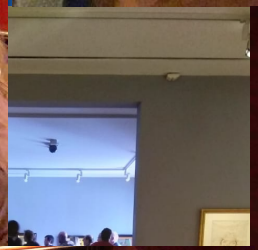

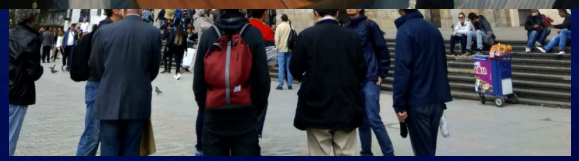

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- Thanks everyone!
- Thanks to the LOC boys: Jeysson, Rafael and Sergio

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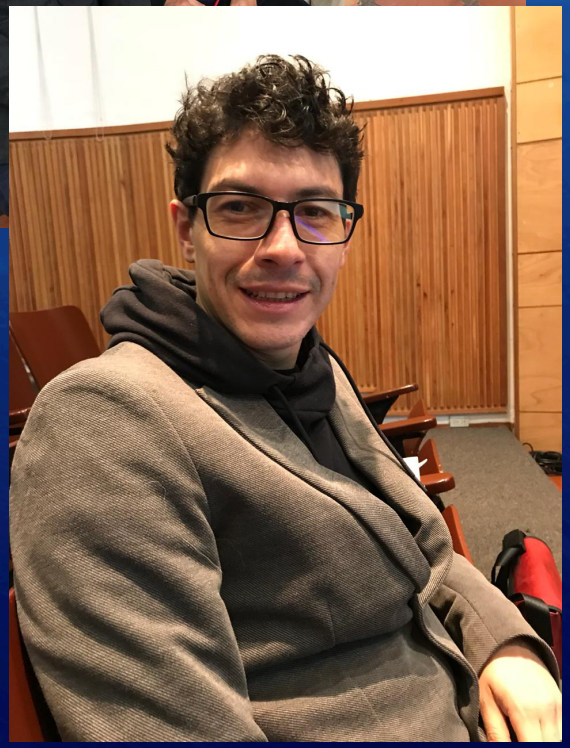
- Thanks everyone!
- Thanks to the LOC boys: Jeysson, Rafael and Sergio
- Special thanks to Diego for his tireless efforts



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