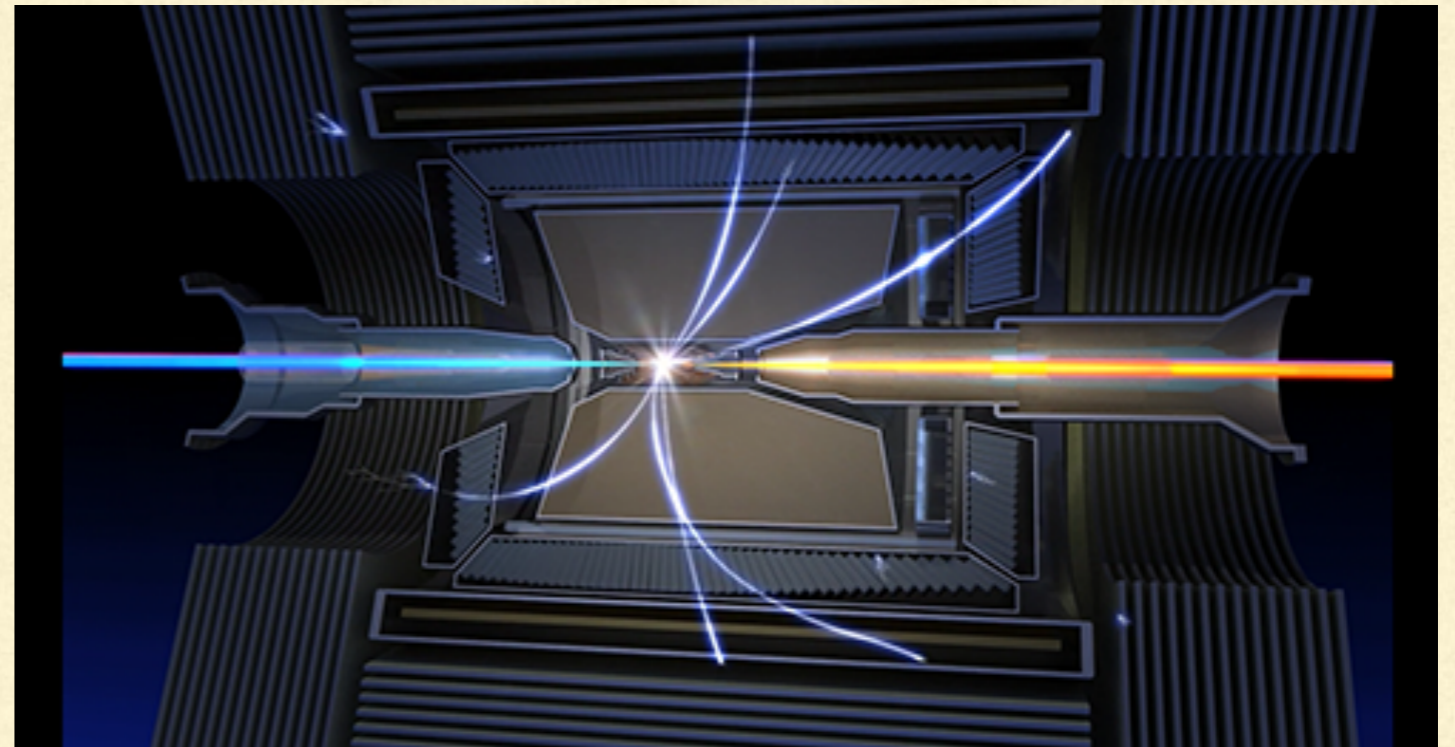
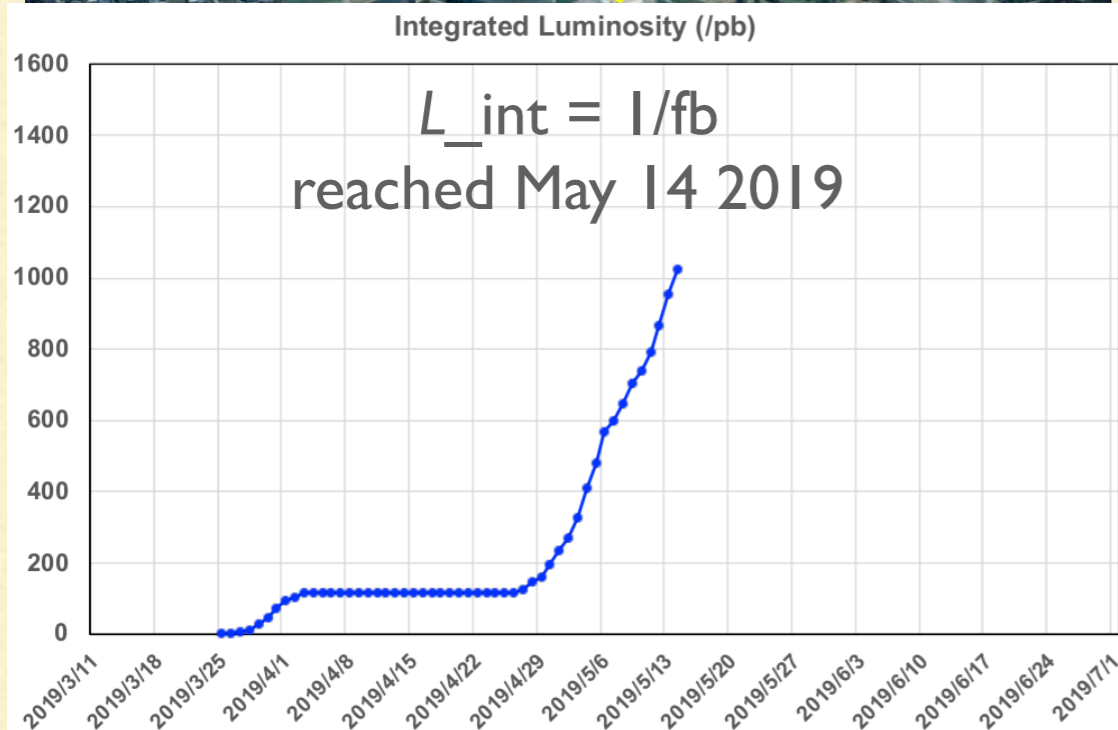

BELLE II: OUTREACH STATUS

Z. Dolezal on behalf of the Belle II Outreach Committee
IPPOG May 2019

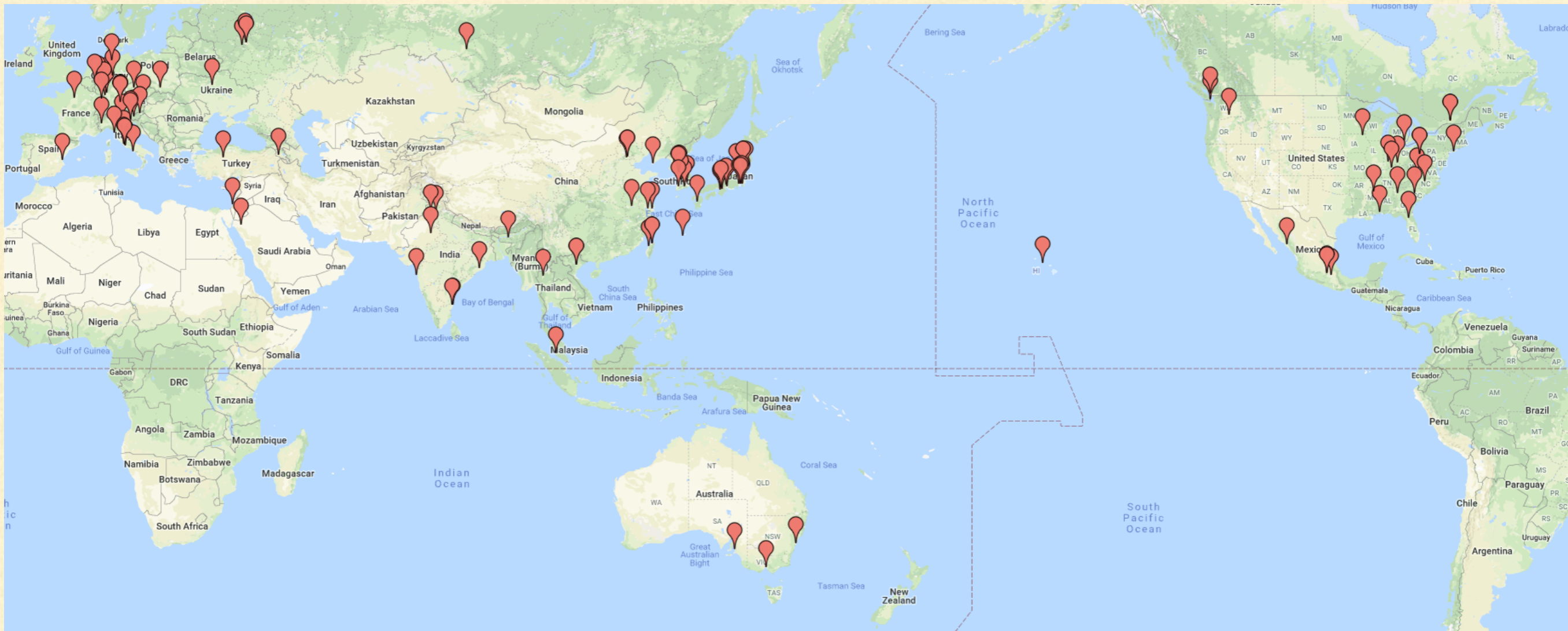
EXPERIMENT

- Asymmetric energy e^+e^- collider (B-factory) upgrade SuperKEKB producing Υ resonance which decays to B-mesons
- CP Violation and BSM studies (matter-antimatter asymmetry)
- Upgraded experiment started data taking in 2018
- Data taking with (almost) full detector started 2019

ACCELERATOR AND DETECTOR UPGRADE



COLLABORATION



1000 colleagues, 113 institutions, 26 countries

OUTREACH ACTIVITIES

- Outreach group active
- Social network activities
- Masterclass preparations
- Virtual reality application
- Photography competition
- Media (KEK Media Salon, press releases coordinated with institutions)
- Lectures, analysis camps, articles, etc., events: first collisions

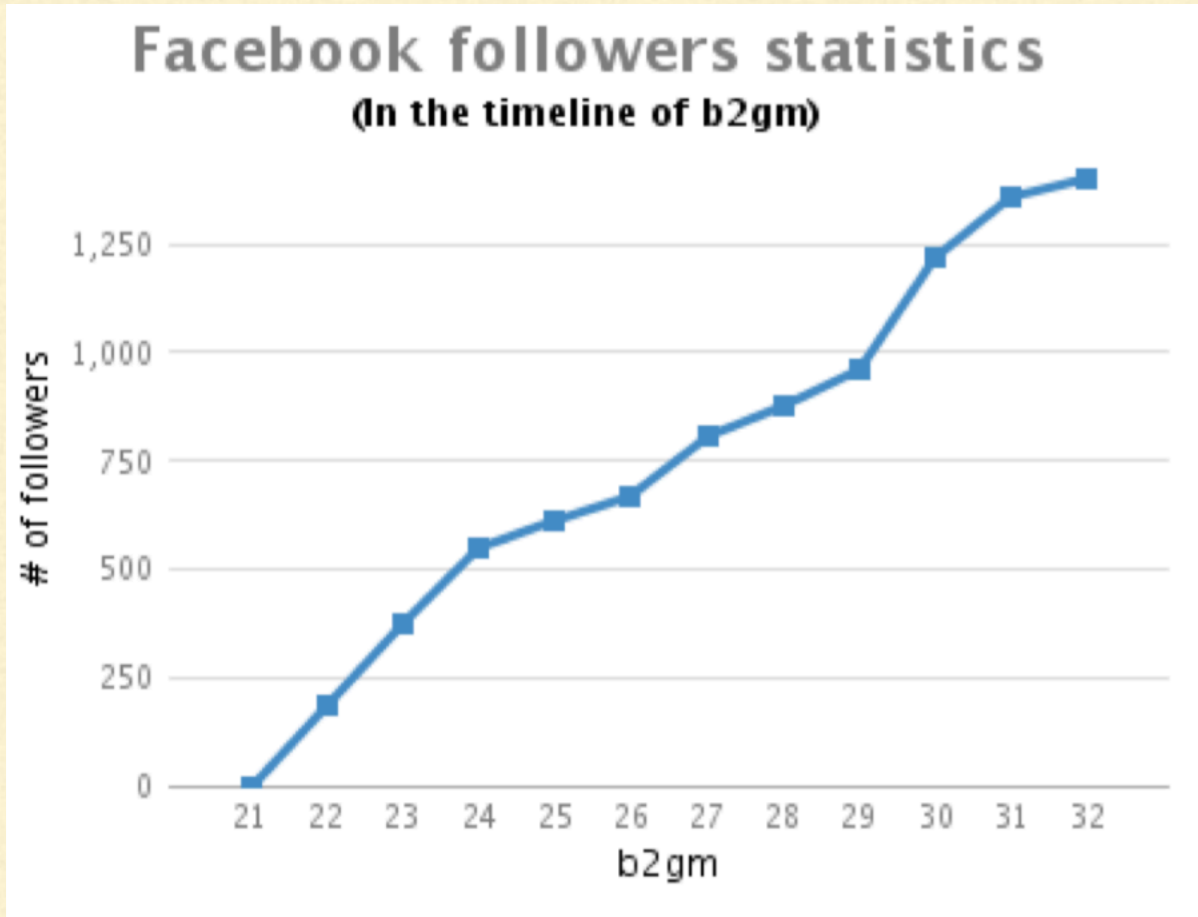
WEB: BELLE2.JP



Welcome to the Belle II Experiment

In the big bang, matter and antimatter should have been created in equal amounts. But why is the universe today filled almost only with matter?

FACEBOOK



1300 FOLLOWERS
10 POSTS/MONTH

Belle II Collaboration
Published by Saurabh Sandilya · 171 · November 22, 2018 · 🌐

VerteX Detector (VXD) successfully installed in #Belle2 !

This complex, state of the art device, composed of a PiXel Detector system and a double sided silicon strip detector, the Silicon Vertex Detector, was inserted along with its many cables and services into the center of the Belle II detector. This milestone is the culmination of approximately a decade of preparation and work by international teams of physicists, engineers and students and is the last piece of the Belle II detector. Click through the photo gallery to see the VXD's journey from the clean room in Tsukuba Hall, where it was prepared and tested, into the heart of Belle II.

Get More Likes, Comments and Shares
Boost this post for ₹120 to reach up to 1,500 people.

4,332 People Reached **1,143** Engagements [Boost Post](#)

👍❤️👏👎🗑️ Kshiti Agarwal, Alyssa Loos and 130 others 39 Shares

Performance for Your Post

4,332 People Reached

372 Reactions, Comments & Shares

310 Like	134 On Post	176 On Shares
15 Love	5 On Post	10 On Shares
6 Wow	4 On Post	2 On Shares
3 Comments	0 On Post	3 On Shares
39 Shares	39 On Post	0 On Shares

772 Post Clicks

266 Photo Views	0 Link Clicks	506 Other Clicks
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NEGATIVE FEEDBACK

1 Hide Post	0 Hide All Posts
0 Report as Spam	0 Unlike Page

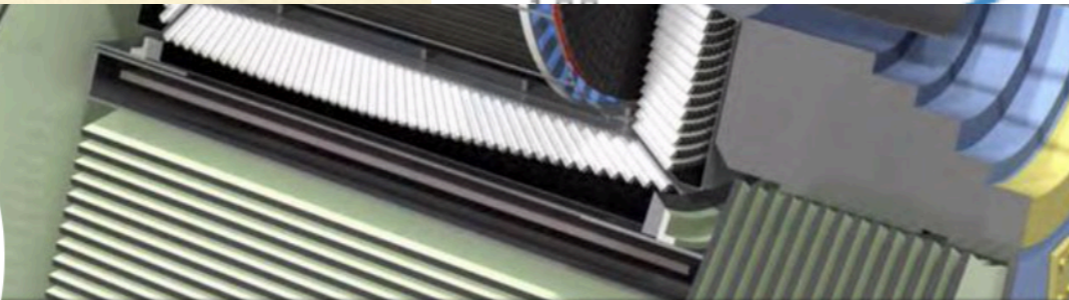
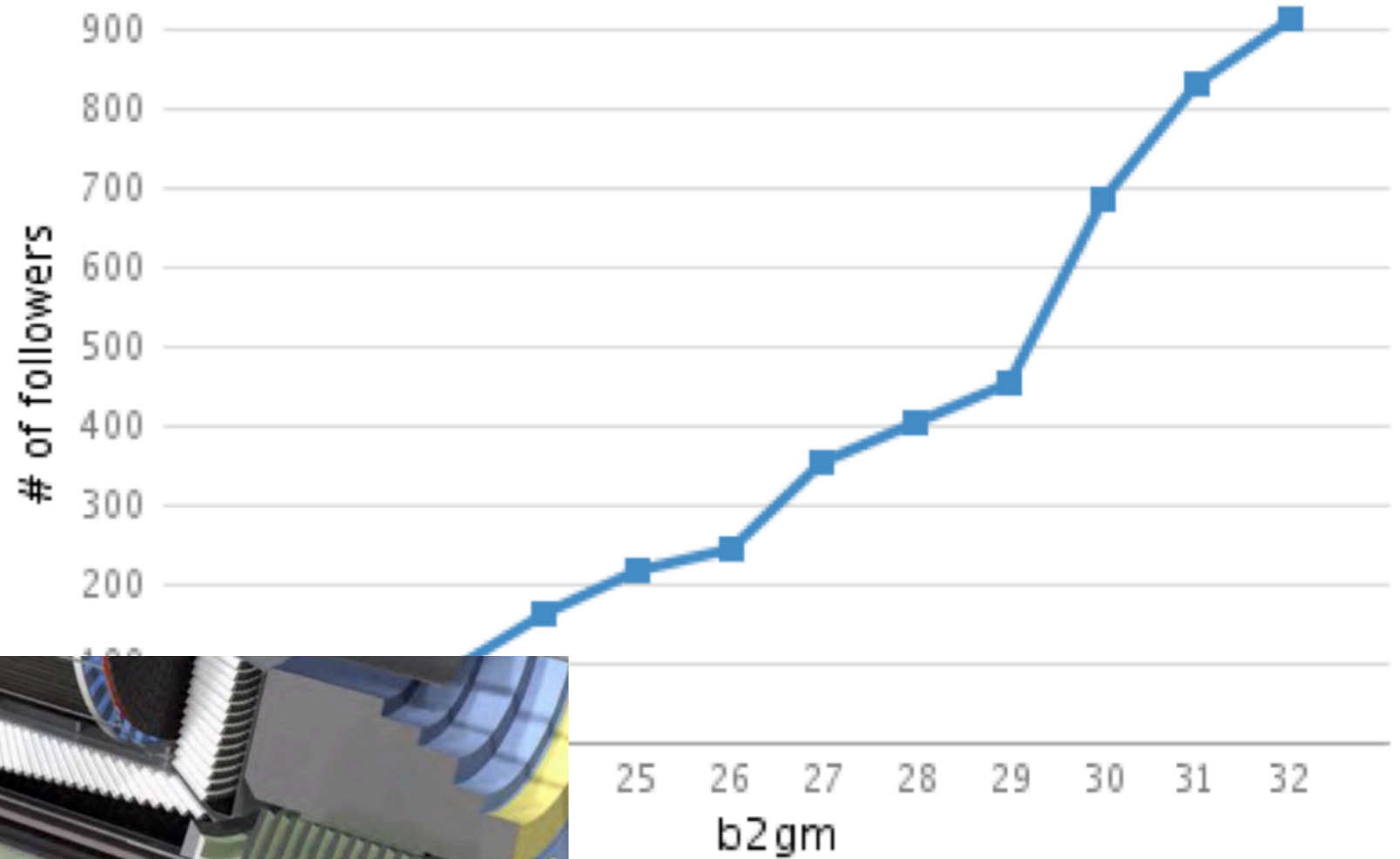
Reported stats may be delayed from what appears on posts

TWITTER

1100 + 700
FOLLOWERS
10 POSTS/MONTH

Twitter followers statistics

(In the timeline of b2gm)



Tweets	Following	Followers	Likes
295	11	726	6

Tweets Tweets & replies Media



Belle II実験 @belle2japan · 17h

SuprKEKB加速器グループとBelle II実験グループから2ヶ月経過しました。この2ヶ月間の実験加速器研究機構素粒子原子核研究所のウェブページを是非お読み下さい。

[Translate Tweet](#)

Belle II実験

@belle2japan

つくば市にある世界最強の加速器 SuperKEKBを使って素粒子と宇宙の謎に挑む国際プロジェクト、Belle II(ベルツー)実験の日本語アカウントです。英語アカウントは@belle2collab

INSTAGRAM



belle2collab

Follow

18 posts

98 followers

18 following

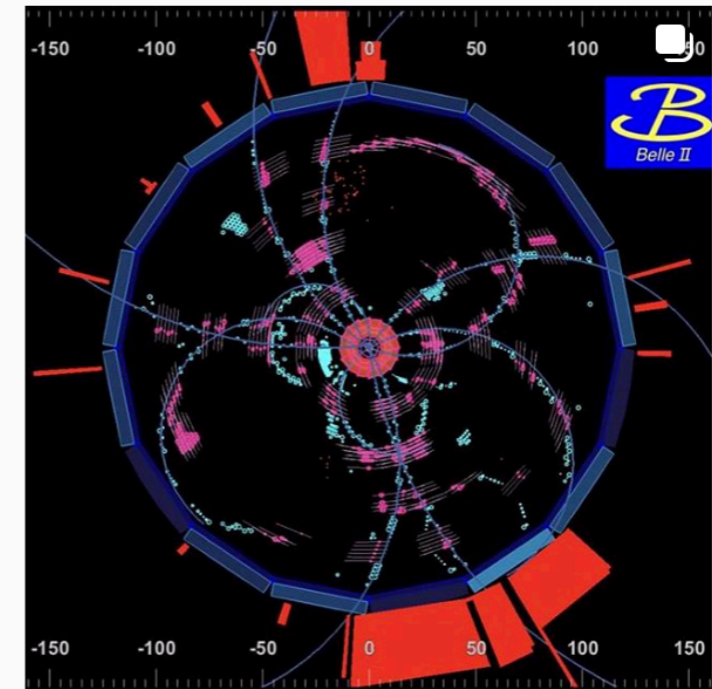
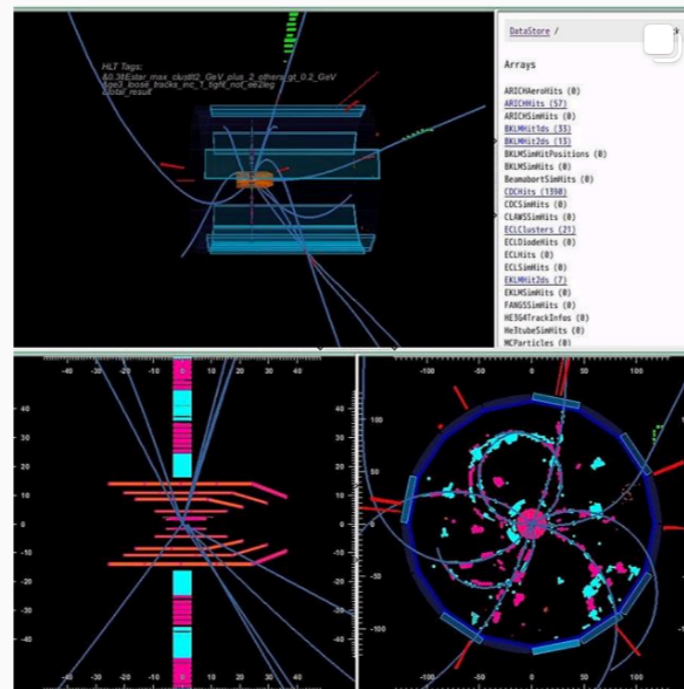
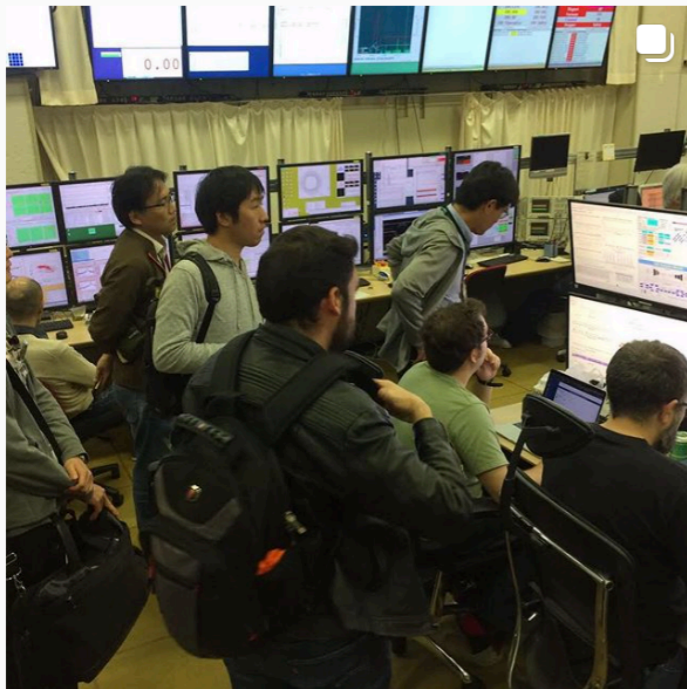
Belle II

Belle II is an international collaboration studying heavy quark physics using the Belle II Detector at SuperKEKB accelerator at KEK in Tsukuba, Japan.

belle2.jp

POSTS

TAGGED



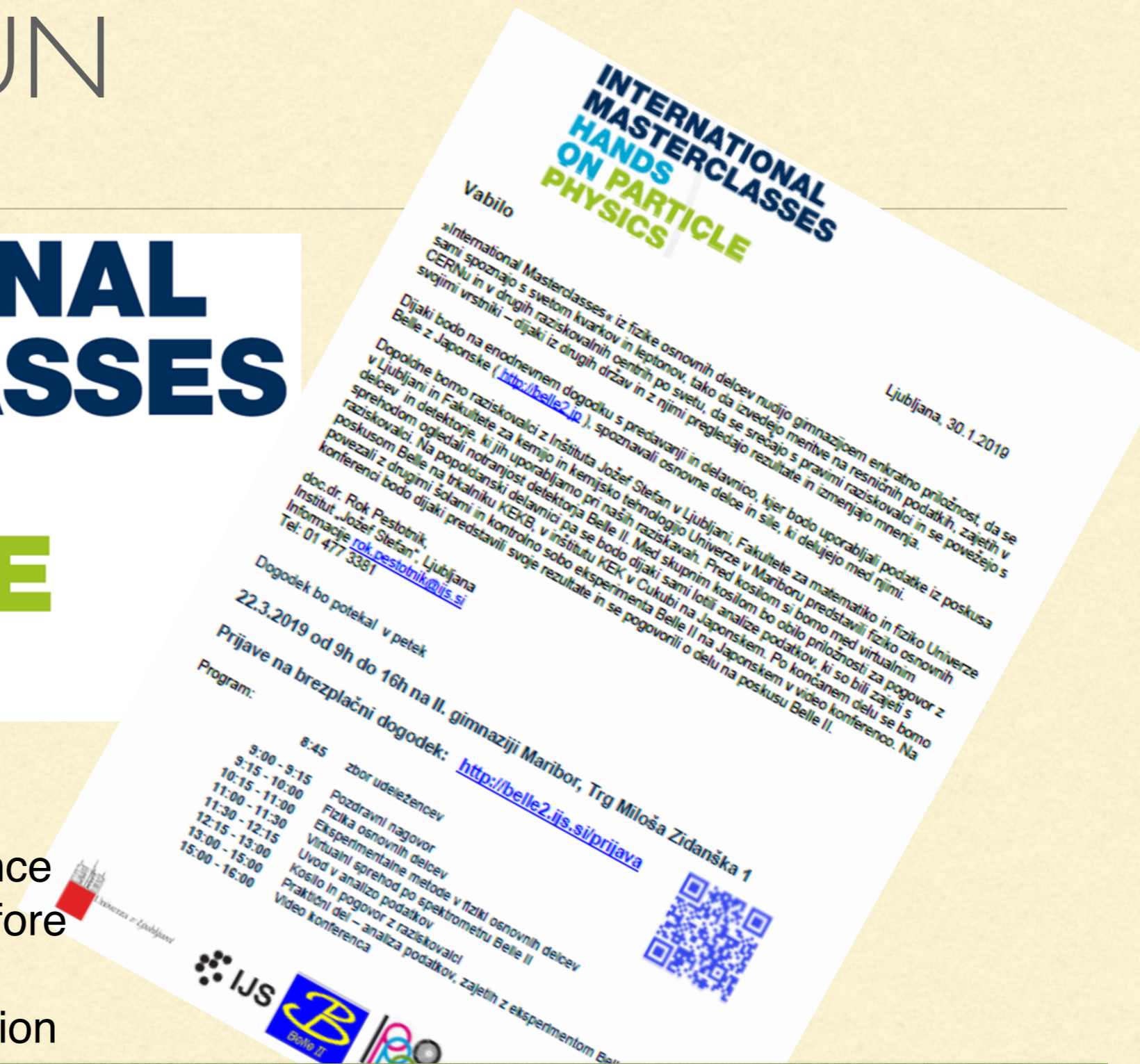
MC: PILOT RUN

INTERNATIONAL MASTERCLASSES HANDS ON PARTICLE PHYSICS

March 22, 2019 from 9h-17h CET

- Invitations three months in advance
- Technical meeting two weeks before
- Event
- Evaluation and plan - Collaboration meeting in June

*support and first drive to Belle II masterclasses from JENNIFER project (MSCA RISE)



PARTICIPANTS

6 participating sites from Europe and ~200 high school students

Site	Contact person	Number of students
Padua	Ezio Torrasa	100
Ljubljana	Rok Pestotnik	26
Strasbourg	Isabelle Ripp-Baudot	10
Prague	Zdenek Dolezal	10
Krakow	Andrzej Bozek	20
Roma Tre * April 3	Antonio Passeri	40



6M EVENTS FROM BELLE

Run Analysis Interrupt Save Diagram Load Diagram

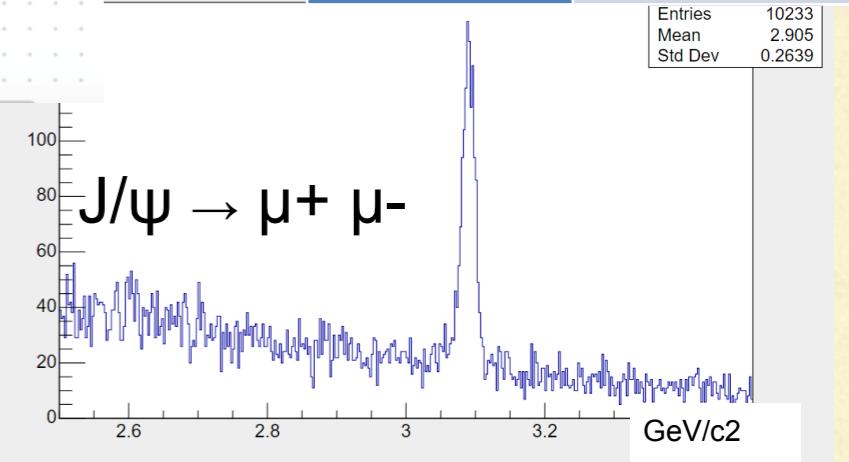
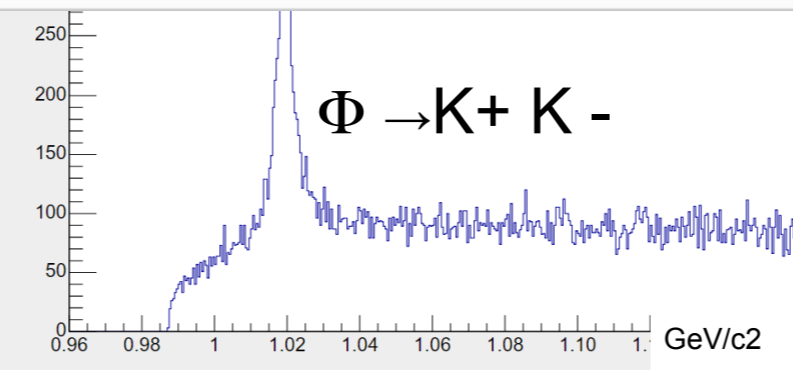
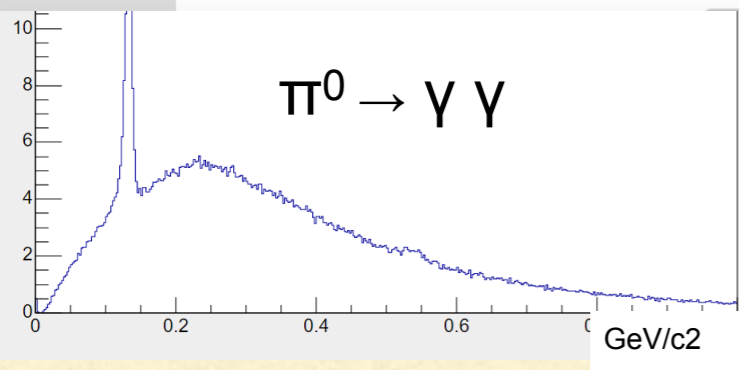
Interactive web application

<http://belle2.ijs.si/masterclass>

Describe decays, make simple cuts, “discover” particles

Runs on a **web server** or in a **virtual appliance**

Particle	Process
π^0	$\pi^0 \rightarrow \gamma \gamma$
K_s	$K_s \rightarrow \pi^+ \pi^-$
ϕ	$\phi \rightarrow K^+ K^-$
J/ψ	$J/\psi \rightarrow e^+ e^-$
	$J/\psi \rightarrow \mu^+ \mu^-$
D^0	$D^0 \rightarrow K^+ \pi^-$
	$D^0 \rightarrow K^- \pi^+$
D^{*+}	$D^{*+} \rightarrow D^0 \pi^+$
D^{*-}	$D^{*-} \rightarrow D^0 \pi^-$
B^+	$B^+ \rightarrow J/\psi K^+$
B^-	$B^- \rightarrow J/\psi K^-$
Λ	$\Lambda \rightarrow p \pi^-$
Σ^+	$\Sigma^+ \rightarrow p \pi^0$



We were impressed how well the exercises went.
The students worked in an enthusiastic and collaborative spirit.

VIDEO CONFERENCE



- Connection with audio quality problems
- Presentation of the results from the groups
 - collection of the results in a google form
- Connection to the Belle II control room and experimental hall
- Particle quiz
- Several live entries from KEK (canteen, accelerator control room), during the morning – very interesting for students

MASTERCLASSES: SUMMARY

- Strengths:
 - Appealing physics problem (invariant mass spectra)
 - Graphical blocky environment, web&standalone interface
 - Exotic aspect of Japan
- To be improved
 - Event display should be added
 - Videoconferencing quality (resolvable)
- Conclusion: ready for a normal run (autumn)

VIRTUAL REALITY

- Application developed by Virginia Tech
 - <http://www1.phys.vt.edu/~piilonen/VR/>
 - Xbox controller
 - Oculus Touch
 - Vive
 - CAVE (LMU Munich)



SUMMARY

- Belle II has a broad outreach programme (can be always improved)
- Close cooperation with KEK and other PR offices
- Belle II Masterclasses exercise tested and ready to join the IMC
- IPPOG activities regularly reported within Belle II