

TOSHIKO YUASA LABORATORY



FRANCE-JAPAN PARTICLE PHYSICS

Status of the TYL

❖ Toshiko Yuasa France-Japan Particle Physics Laboratory TYL-FJPPL:

- ❖ **Created in 2006** as a virtual international research laboratory between CNRS, CEA and KEK to foster joint research projects between FR and JP.

Participation of 16 laboratories at IN2P3 (joint research units of CNRS and partner Universities), of 5 departments at IRFU, of KEK and of teams in Japanese universities pursuing research in particle physics.

Renamed in honour of **Toshiko Yuasa** in 2008.

- ❖ Web site: <http://fjppl.in2p3.fr>
- ❖ **Current Agreement valid till May 21th, 2022.**

❖ Successful joint projects, including

- ❖ Japan access to LHC data through CC-IN2P3.
- ❖ ILC project merged Asian and European views.
- ❖ IN2P3 joined T2K and Japan joined Double-Chooz.
- ❖ IN2P3 joined Belle II.



Activities under the TYL in 2019-2021

❖ Annual call for proposals:

	2019	2020	2021
HEP	7	7	5
FLAV	2	2	2
HAD	3	3	3
Nu	2	3	3
Mu	1	2	2
D_RD	6	7	10
A_RD	7	10	10
COMP	2	2	2
Total	30	36	37

The number of projects ever increasing!

❖ Annual workshop (jointly with FKPPL): ~100 participants.

- ❖ WS 2020 cancelled due to COVID-19
- ❖ Virtual meeting on May 10-12, 2021:
<https://conference-indico.kek.jp/event/139>
- ❖ 123 registered participants this year!

Thanks for joining!

❖ (Till 2019) Budget provided for

- ❖ Exchanging people between FR and JP
- ❖ Student internships (special for 2020; negotiable also for 2021)

Activities under the TYL in 2019-2021



- ❖ Support provided for **student exchanges**:
 - ❖ **1 (FR → JP, virtually)** in 2020
- ❖ Promote **careers of young researcher**: Young Investigator Award:
 - ❖ Ritsuya Hosokawa (2020)
 - ❖ Sergey Suvorov (2021)
- ❖ Toshiko Yuasa Female Scientist Prize of Ochanomizu University.
 - ❖ Mika Masuzawa (Gold, 2020)
 - ❖ Yumi Kanno, Yu Nakahama (Silvers, 2021)
- ❖ Participation to the Rikejo Camp with high school student.
 - ❖ Sep 2020 and Apr 2021 (online)
- ❖ TYL-triggered Co-supervision of graduate students:
 - ❖ Tohoku U. → U. Paris-Saclay [HEP_09]
 - ❖ U. Tsukuba → U. Grenoble [HAD_04]



Extension of the TYL beyond mid of 2022

❖ Proposal:

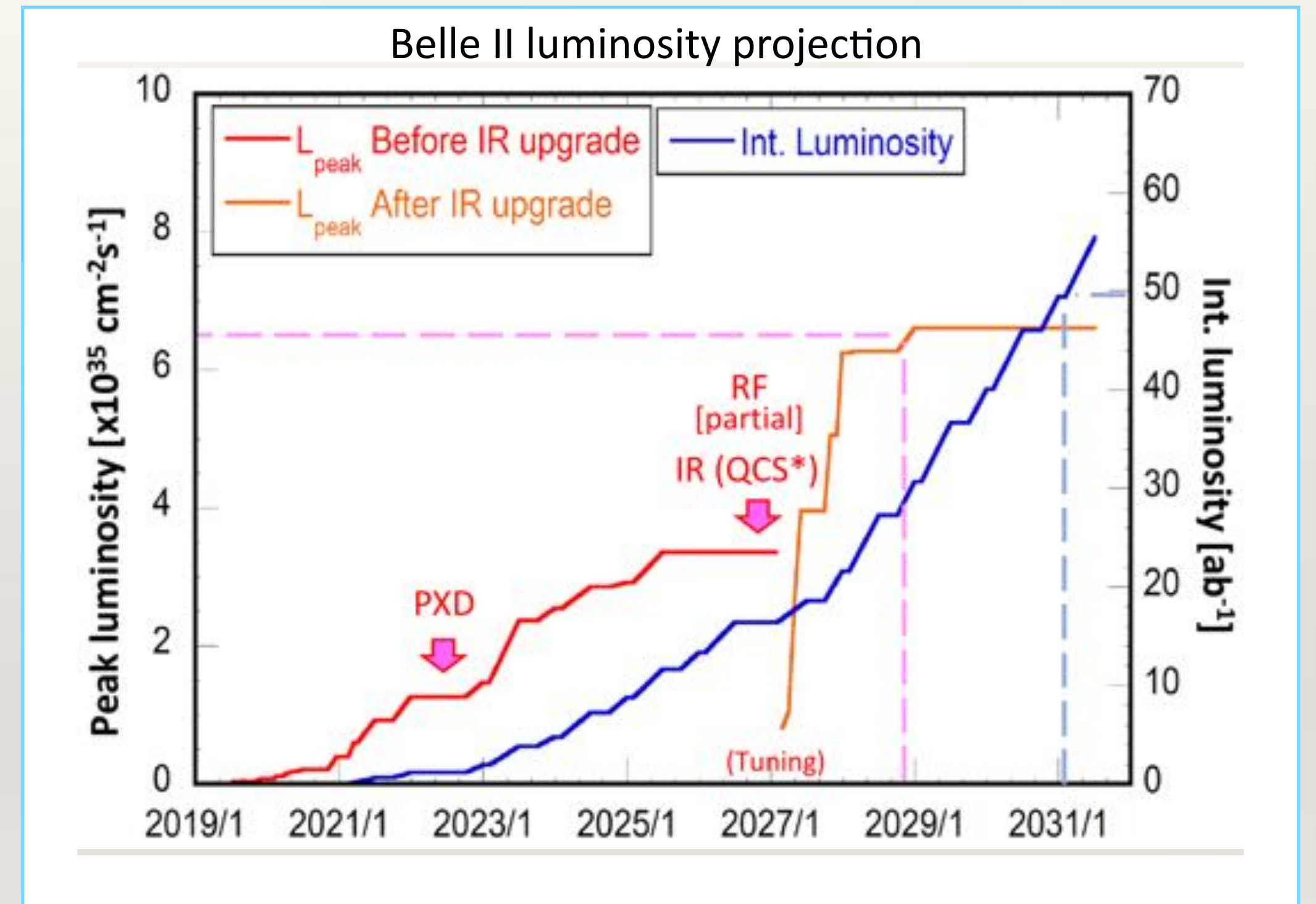
- ❖ Expand the scope of TYL by creating a **new joint CNRS-KEK real laboratory at KEK**. KEK and CNRS staff would belong to this new lab.
- ❖ **Associate IRFU and French & Japanese Universities** as partners.

❖ Context:

- ❖ Already excellent level of joint activities.
- ❖ **KEK hosts key experiments and unique research facilities**. Main ones for the TYL are: Belle II experiment & accelerator facilities. Opportunity w.r.t. the calendar:
Data taking of Belle II and developments toward the high instantaneous luminosity of e^+e^- colliders.

❖ Objectives:

- ❖ **Enhance visibility** of already existing joint activities and facilitate emergence of new projects.
- ❖ **Gather additional resources** from France and Japan external sources (ANR, ERC, JSPS, ...).
- ❖ Facilitate mid- and **long-term stays**.



Joint CNRS-KEK TYL (2022~, planned)

❖ Scientific themes (provisional plans):

❖ Accelerator R&D: toward the high luminosity at $e^+ e^-$ colliders.

Low emittance, high yield positron source, beam stability control, RF cavities.

❖ Flavour physics: search for physics beyond the standard model.

Main experiment: Belle II, in the context of the measured flavour anomalies challenging the standard model.

Associated developments: computing, silicon sensors, machine-detector interface, ...

❖ Other potential projects: ATLAS, ILC, COMET, neutrinos, LiteBIRD, (and ALICE).

❖ Keeping the traditions and pushing them further

❖ Structure and boost the joint FR-JP research works: call for proposals and annual workshops (details have to be worked out)

❖ Attract students and postdocs to our field: internship, etc.

❖ Promote Female Scientific careers.

Detailed discussions have started among directorates towards the launch in mid 2022. Proposals of other projects including a long-term stay at KEK is highly welcome.

Thank you for joining the
2021 Joint Workshop of TYL/FJPPL and FKPPPL !

Scientific committee

Marc Besançon (CEA/IRFU, France)

Vincent Breton (CNRS/IN2P3, France)

Shoji Hashimoto (KEK, Japan)

Byungsik Hong (Korea university, South Korea)

Chang-Seong Moon (KNU, South Korea)

Isabelle Ripp-Baudot (CNRS/IN2P3, France)

Administrative assistants

Special thanks to Minjung Kweon (INHA university, South Korea)
Ritsuko Ota (KEK, Japan)

Workshop(s) in 2022 will be announced as soon as decided.

We look forward to seeing you next time!