

# INTENSITY

*frontier*

GDR-InF

Meeting with conveners to  
organise the annual workshop  
11 October 2022

Giulio Dujany, Diego Guadagnoli



# GDR-InF Annual Workshop 2022

Where: Domaine Lyon Saint-Joseph (<https://www.domaine-lyon-saint-joseph.fr/>)

When: 2nd to the 4th November 2022

Program: decide at today's meeting

[https://box.in2p3.fr/index.php/apps/onlyoffice/23135693?filePath=%2FGDR-InF%2FAnnual\\_Workshop\\_2022.docx](https://box.in2p3.fr/index.php/apps/onlyoffice/23135693?filePath=%2FGDR-InF%2FAnnual_Workshop_2022.docx)

# General things to be decided

- sessions chairing
- sessions structure
- talk lengths (same length for everyone? adjustable metrics?)

# Rare, radiative and semi-leptonic B decays; Charm and Kaon Physics (7+1x2)

- Camille Normand: The effective lifetime of  $B_s$  to  $\mu\mu\gamma$
- Ludovico Vittorio: The DM approach to  $V_{cb}$
- M eril Reboud: Form Factors in  $b \rightarrow s$  transitions
- Gilberto Tetlalmatzi-Xolocotzi: Enhancing  $B_s$  to  $e^+e^-$  to an Observable Level
- Saad Nabeebaccus: QED corrections to  $B \rightarrow K\ell\ell$  and their effects on LFU ratios
- Alessandro Scarabotto: Rare Charm decays  $D^0 \rightarrow h\ell e$  in LHCb
- Gaya Benane: LFU  $b \rightarrow c$  in LHCb
- Lucas Martel + Jacopo Cerasoli: Search for  $B \rightarrow K \nu \bar{\nu}$  at Belle II and B-tagging using deep learning

# Non-perturbative aspects (1)

- Teseo San José: The hadronic contribution to the running of the electromagnetic coupling and the electroweak mixing angle

# Interplay of quark and lepton flavour (1+1x2?)

- Tommaso Fulghesu: Lepton Flavour Violation searches at LHCb
- Léonard Polat + Robin Leboucher: Overview of tau Lepton Flavor Violation decays at Belle II

# Light new particles (2)

- Luc Darmé: Resonant dark sector searches at positron beam dumps
- Alexandre Carvunis: Relic Challenges for Vector-Like Fermions as Connectors to a Dark Sector

# Discrete symmetries (6)

- Nishu GOYAL: Search for CP violation in Nuclear beta decay with The MORA project
- Guillaume Pignol: search for CP violation in the neutron
- Kseniia Svirina: n<sup>2</sup>EDM commissioning progress (maybe join with above?)
- Chiara Mancuso: Study of the  $\Lambda_b^0 \rightarrow D^0 p K^-$  decay for a future measurement of CKM angle  $\gamma$
- Halime Sazak: Gamma angle measurement in open charm B decays
- Maud Versteegen: BSM search with nuclear beta decay - the WISArD experiment



# Current and future experiments (3 + 1x2)

- Varghese Babu + Petros Stavroulakis:  $B^0 \rightarrow K_s \pi \pi \gamma$  in Belle/Belle II and ans a benchmark the performance of an upgrade to the Vertex Detector of Belle II
- Arthur Thaller: Estimation of the fake tracks vs time in Belle II
- Valerio Bertacchi: High Level Trigger of Belle II experiment
- Karim Trabelsi: B-tagging at Belle II (tbc)

# WG Overviews: what we want to do?

- Rare, radiative and semi-leptonic B decays; Charm and Kaon Physics
- Non-perturbative aspects
  - Talk by Elisabeth Niel
- Interplay of quark and lepton flavour
  - Suggestion by Ana to invite Sacha Davidson to give an overview on EFT and applications to (lepton) flavour physics, Possible also according to Laura to ask Léonard to extend a bit the scope of his talk
- Light new particles
- Discrete symmetries
  - Talk by Vincent Tisserand
- Future experiments

# Tentative time estimate (in minutes)

- Allocated time: 14h = 840
- Flavio hands on: 120
- 20 + 3 double talks (26 equivalent) + 6 WG overviews
- Let's assume 20 minutes per talk, 40 minutes for double talks and 30 minutes for WG overviews (time including questions)
- Time for talks:  $26 * 20 + 6 * 30 = 700$
- Total time: 820