

WP5/Task5.4: Phenomenology and Generators

• 2019-2022 (during Covid)

- **Develop a coherent theoretical framework** from CP violation analyses in both quark and lepton sector, lepton flavour violation analyses, searches for sterile neutrinos.

Study possible common techniques (ex. fitting procedures) to determine CKM and PMNS matrix parameters with high precision.

Publications: Book: Bigi, G. Ricciardi, M. Pallavicini, New Era for CP Asymmetries (Axions and Rare Decays of Hadrons and Leptons) IWorld Scientific 2022, ...

- **Theoretical support** to flavour and lepton analyses in WP1-WP4, including neutrino-nucleus cross section analyses.

Publications: G. Ricciardi, F. Vissani, N. Vignaroli, An accurate evaluation of electron (anti-)neutrino scattering on nucleons, JHEP 08 (2022) 212, A. Addazi, G. Ricciardi, S. Scarlatella, R. Srivastava, J. Valle, Interpreting B anomalies within an extended 331 gauge theory,, Phys.Rev.D 106 (2022), ...

WP5/Task5.4: Plan for JENNIFER supported Workshops

- **2019-2022 (before/during Covid)**

- Continuation of Jennifer I : **Belle II Physics Week**, successful continuation of **B2TiP**, 2018, 2019 at KEK, 2020 online (then, moved to Europe)
- **Workshop "Anomalies and Precision in the Belle II"** organized at Vienne by JENNIFER2 group (financed by J2: <https://indico.cern.ch/event/1037087/>)

[Related: Eighth **Workshop** on Theory, Phenomenology and Experiments in Flavour Physics Neutrinos, Flavour Physics and Beyond: Neutrino, Flavour physics and beyond (Capri, Italy, 2022)]

- **2023-on (restart of JENNIFER II)**

- KEK-FF : Feb. 9-10, 2023, **first flavour workshop at KEK** since Covid outbreak (attached to the Belle II collaboration meeting), continuation for coming years
Small focus groups/forum discussing on the generator or the fit software issues

- **Final goal: "T2K and Belle II" common workshop**