

Flavour Physics and Lattice QCD in 2006

Vittorio LUBICZ
Università di Roma Tre

1) Flavour Physics and its motivations

- Problems in the Standard Model and evidence for New Physics
- Open issues in Flavour Physics
- A simple model of Flavour Physics

2) Lattice QCD and Flavour Physics

- Introduction to Lattice QCD
- Lattice QCD and quark masses
- Lattice QCD and the Unitarity Triangle Analysis (UTA)
- The UTA beyond the Standard Model

References

- [1] V. Lubicz, “The role of lattice QCD in flavor physics,” Nucl. Phys. Proc. Suppl. **140** (2005) 48 [arXiv:hep-lat/0410051].
- [2] R. Gupta, “Introduction to lattice QCD,” arXiv:hep-lat/9807028.
- [3] A. J. Buras, “Flavour physics and CP violation,” arXiv:hep-ph/0505175.

- [4] M. Bona *et al.* [UTfit Collaboration], “The 2004 UTfit Collaboration report on the status of the unitarity triangle in the standard model,” JHEP **0507** (2005) 028 [[arXiv:hep-ph/0501199](#)].
- [5] M. Bona *et al.* [UTfit Collaboration], “The UTfit collaboration report on the status of the unitarity triangle beyond the standard model. I: Model-independent analysis and minimal flavour violation,” JHEP **0603** (2006) 080 [[arXiv:hep-ph/0509219](#)].