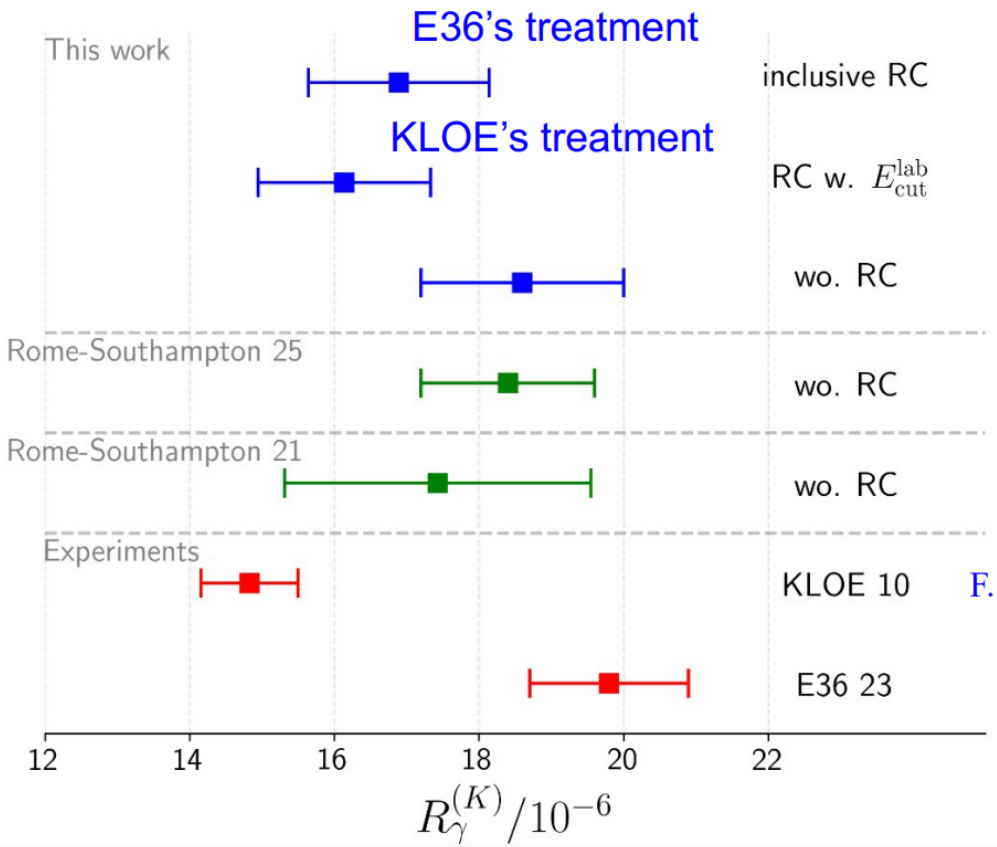
Discussion session

From Lattice to the Lab: Illuminating Kaon Decays, LNF, 25/03/26

$K \to \ell\, \nu_\ell\, \gamma(\gamma?), \ell\nu\ell'^+\ell'^-$

- It would be important, as already stressed at this workshop, to fully understand what we are actually comparing!
- NLO $\alpha_{\rm em}$ effects, which are parametrically 1%, can be enhanced in particular region of the phase space and by the collinear logs ($\log(m_e/m_K)$) (Xin-Yu talk).
- Shall the theorists take care of these NLO effects, or is it better that experimenters include them in their MC? If corrections are too dependent on cuts, detector geometry, ... , it could be difficult from theorists to do this job!
- On the lattice side what we compute non-perturbatively is $F_A(x_\gamma)$ and $F_V(x_\gamma)$ THAT'S IT! From the lattice side the best thing is that experimenters provide results for F_V and F_A directly.
- Other interesting observables besides R_γ ? That can e.g. minimize impact of form factor parameterizations in experimental results?
- For $K \to \mu\mu\nu\mu$, are there other interesting observables, besides the full Br that can be looked at? E.g. that can minimize theory/experimental errors (and thus improve precision on extracted $|V_{us}|$)

LET US KEEP IN TOUCH



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