

Search for Z' in the dimuon spectrum of $B \rightarrow K\mu\mu$

Sascha Liechti

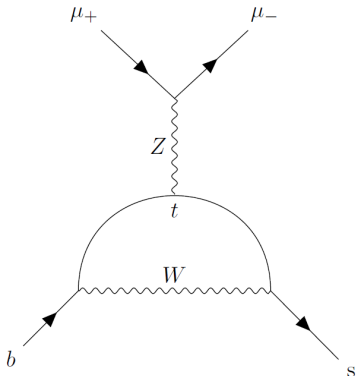
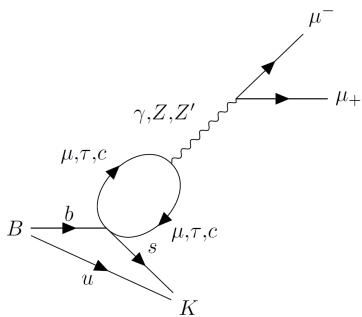
University of Zurich - LHCb group

Overview

1. Decay
2. Search
3. Z' cusp
4. Outlook

Decay

- Anomalies gave rise to new search for possible lepton flavor universality violation
 - Different coupling to leptons of different generations
 - ▷ Most to τ , least to e
- ▷ How can we observe different generations at once?



- According to SM the τ contribution should not be visible in the dimuon spectrum
 - Dependent on Wilson coefficients ($C7$), $C9$, $C10$
 - ▷ Some SUSY models predict an amplification of the τ contribution:
 - ▷ Amplification due to new channel
 - ▷ Amplification factor: **10 - 1000**
- ⇒ τ contribution should become visible
- Cusp like shape in between J/ψ and $\psi(2S)$ resonances

