



Contribution ID: 9

Type: **Talk**

$B_{\{14\}}$ decays and the extraction of $|V_{ub}|$

Monday, June 29, 2015 4:40 PM (20 minutes)

The Cabibbo-Kobayashi-Maskawa matrix element $|V_{ub}|$ is not well determined yet. It can be extracted from both inclusive or exclusive decays, like $B \rightarrow \rho(\pi)l^-\nu_l$. However, the exclusive determination from $B \rightarrow \rho l^-\nu_l$, in particular, suffers from a large model dependence. In this talk, I will elaborate our proposal [1]: extracting $|V_{ub}|$ from the four-body semileptonic decay $B \rightarrow \pi\pi l^-\nu_l$, where the form factors for the pion-pion system are treated in dispersion theory. This is a model-independent approach that takes into account the $\pi\pi$ rescattering effects, as well as the effect of the ρ meson. We demonstrate that both finite-width effects of the ρ meson as well as scalar $\pi\pi$ contributions can be considered completely in this way.

References

X.-W. Kang, B. Kubis, C. Hanhart and U.-G. Meißner, Phys. Rev. D 89, 053015 (2014).

Primary author: KANG, Xian-Wei (IAS and IKP, Forschungszentrum Jülich)

Co-authors: Prof. KUBIS, Bastian (HISKP, Bonn University); Prof. HANHART, Christoph (IAS and IKP, Forschungszentrum); Prof. MEISSNER, Ulf-G. (HISKP and BCTP, Bonn University; IAS and IKP, Forschungszentrum Jülich)

Presenter: KANG, Xian-Wei (IAS and IKP, Forschungszentrum Jülich)

Session Classification: Parallel Session 2 - Goldstone Boson WG

Track Classification: Goldstone Boson Working Group