technische universität
dortmund

SEMINAR TEILCHENPHYSIK

Thema

What can we learn from charm?

Abstract

Charm decays offer a unique window into the dynamics of up-type quark transitions, and therefore stand as an important testing ground for the Standard Model and potential new physics. In this talk, I will discuss charm decays via charged weak currents. First, from (semi)leptonic decays, I will present a new extraction of the V_{cs} CKM element, highlighting current tensions and examining the available space for new physics to manifest in $c \to s\ell\nu$ transitions. Then, I will turn to the more complex domain of hadronic decays, where theoretical predictions are more challenging due to strong interaction effects. Using $SU(3)_F$ symmetry of QCD, and accounting for its breaking, I will discuss two-body $D \to \eta'\{\pi, K, \eta\}$ decays, presenting branching ratio predictions and prospects for CP violation. By the end of this talk, I hope to have convinced you that charm decays remain an essential area of study in flavour physics, and more experimental data is anxiously awaited!

Vortragender

Dr. Carolina da Silva Bolognani
Universität Maastricht

Ort

CP-O3-123

Zeit

Montag, 28.07.2025
10:00 – 11:00 Uhr

im Auftrag:

Dr. Maik Becker