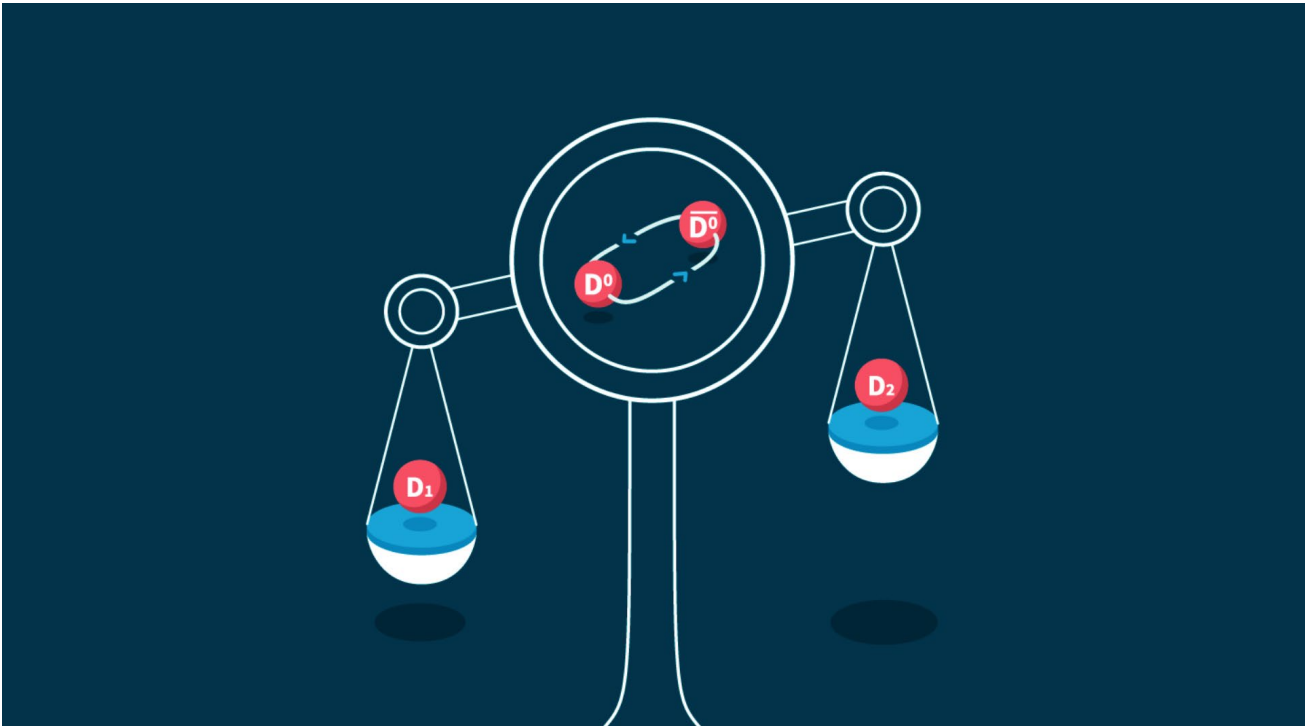


PHYSIKALISCHES KOLLOQUIUM

AM 02. DEZEMBER 2024 UM 17 UHR C.T.
IM GROßEN HÖRSAAL



“THE CHARMING SIDE OF ANTIMATTER”

MARCO GERSABECK

UNIVERSITÄT FREIBURG

In my inaugural lecture, I would like to discuss the charming side of antimatter. After an introduction into the fundamental building blocks of matter and antimatter, I will focus on a special class of particles that contain both: a matter quark and an antiquark. The electrically neutral ones among these particles have the special ability to change into their antimatter partners and back—driven by mass differences as small as 10^{-38} g. With your help, I will demonstrate this phenomenon in live experiments and motivate why we need such complex experiments as the LHC with its huge detectors, specifically LHCb. The LHCb experiment is specialised in finding matter-antimatter differences and I will discuss some remarkable discoveries of both huge and tiny differences and motivate the road ahead towards particularly charming measurements that require a completely new detector concept.

AKTUELLE INFORMATIONEN FINDEN SIE HIER: WWW.PHYSIK.UNI-FREIBURG.DE

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