

# CP violation in the decay of charmed hadrons at LHCb

*Saturday 20 July 2024 11:00 (15 minutes)*

The LHCb experiment published the first observation of CP violation in the decay of charmed particles in 2019, using the decay channels  $D^0 \rightarrow \pi^+\pi^-$  and  $D^0 \rightarrow K^+K^-$ . Additional measurements in other decay channels are essential to understand whether this effect can be explained within the Standard Model, or if new sources of CP violation are needed. We present the latest searches for CP violation in the decay of charmed hadrons in complementary decay channels, and we discuss the prospects for the sensitivity at the LHCb upgrades.

## Alternate track

### I read the instructions above

Yes

**Author:** MARTINELLI, Maurizio (Universita & INFN, Milano-Bicocca (IT))

**Co-author:** VOS, Keri (Nikhef National institute for subatomic physics (NL))

**Presenter:** MARTINELLI, Maurizio (Universita & INFN, Milano-Bicocca (IT))

**Session Classification:** Quark and Lepton Flavour Physics

**Track Classification:** 05. Quark and Lepton Flavour Physics