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## Recent Belle II results on decay-time-dependent CP violation

*Thursday, 7 July 2022 11:32 (17 minutes)*

Measurements of decay-time dependent  $CP$  violation are chief goals of the Belle II physics program. Comparison between penguin-dominated  $b \rightarrow q\bar{q}s$  and tree-dominated  $b \rightarrow c\bar{c}s$  results allows for stringent tests of CKM unitarity that are sensitive to non-SM physics. This talk present first Belle II results on the mixing rate and lifetime of  $B^0$  mesons, an essential validation of time-dependent measurements that requires detailed control of complex high-level capabilities such as flavor tagging and decay-time resolution modeling. Recent results on  $B^0 \rightarrow K_S^0 \pi^0 \gamma$  and  $B^0 \rightarrow K_S^0 K_S^0 K_S^0$  are also reported.

### In-person participation

Yes

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