

# HL-LHC Crab Cavities & Future Prospects

*Thursday 18 July 2024 14:48 (18 minutes)*

In the High Luminosity Large Hadron Collider (HL-LHC) and most future colliders crab crossing is required to recuperate the significant geometric luminosity loss due to finite crossing angle at the collision point. In the framework of the HL-LHC, a decade long R&D program on ultra-compact superconducting crab cavities led to the successful demonstration of crabbing with high energy proton beams in the CERN SPS for the first time. This contribution will cover the main highlights of the development of superconducting crab cavities, including the global effort to realize the final crab cavity system for the HL-LHC. The implications of these developments on future colliders such as FCC and EIC will be discussed.

## Alternate track

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Yes

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