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## Sextupole RDTs in the LHC at injection and in the ramp

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During 2023, examination of the action dependence of sextupolar resonance driving terms (RDT) in the LHC at injection, as measured with an AC-dipole, demonstrated that a robust measurement of the RDTs could still be achieved even with very small amplitude kicks, typically used for linear optics studies. Consequently, analysis of optics measurements from 2022 and 2023 during the LHC energy ramp allowed a first measurement of the sextupole resonance evolution. A large asymmetry was observed between the two LHC beams, with the clockwise circulating beam (LHCB1) significantly worse than the counter-clockwise circulating beam (LHCB2), and a clear increase in the RDT strength during the ramp was observed. Results are presented and compared to MAD-X simulations, in this report.

### Footnotes

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Europe

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