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”Cut-edge RF Oscillators for Accelerator Facilities, future perspectives”

Today’s high-precision accelerators with arrival time stabilities in the sub-fs range require a very low-noise and long-term stable source as the main oscillator. Due to the different locking bandwidths of the various subsystems, sources with low phase noise down to below -175dBc/Hz are required for arrival times below 1fs. In order to connect laser systems and optical low-latency links without time jitter loss, additional low 1/f noise edges, typically from high frequency (RF) sources, are required. In this presentation, state-of-the art RF oscillators will be presented, current challenges and an outlook of the next generation of RF sources for arrival times in the 100as range will be given.

Summary

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