## Annual Meeting of the Swiss Physical Society 2024



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## [403] Quantum synchronization through the interference blockade

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Quantum synchronization occurs in systems of quantum limit-cycle oscillators that are stabilized by both gain and damping processes. Single maxima (1:1/in-phase locking) emerge in (a) the phase probability distribution of a quantum oscillator if it is driven externally or (b) in the distribution of the relative phase of two coupled oscillators. If the gain and damping rates are equal, so-called interference blockades emerge and inhibit 1:1 phase locking for both drive-spin and spin-spin interactions. In this work [2405.05182], we describe higher order 1:1 phase locking for two (where one spin is driven) and three (undriven) coupled, blockaded spin-1 oscillators.

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