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## Driving Josephson currents by oscillating potentials

Driving a Josephson junction with two dephased AC oscillating fields can pump a DC Josephson current and plays the role of an artificial gauge field. This will be illustrated on two examples : a weak link Josephson junction between two superconductors, and coupled cold atom Bose-Einstein condensates (BECs) where interactions play an essential role. Adiabatic to fast oscillating regimes will be explored, through resonant ones. This analogy offers a basis for quantum simulations of superconducting circuits by tunable BECs.

### Choix de session parallèle

4.3 Simulateurs quantiques

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