ID de Contribution: **4**   Type: **Non spécifié**

Quantum many-body spin ratchets.

I will describe a novel class of exactly solvable quantum unitary circuits on qudits. Their key feature is architecture that breaks parity and time reversal symmetries, while retaining the combined PT symmetry. A consequence of this chirality is a spin transport with a finite drift: the circuit acts as a quantum spin pump. The drift velocity is universal in that it depends only on the Casimir invariant of the local quantum spaces and survives non-integrable perturbations of the circuit. I will comment on connection to integrable Troterizations and, if time permits, discuss spin transport coefficients and hydrodynamics.

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