

Discrete symmetry-breaking and time crystals in continuous systems under periodic driving

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We present a fully comprehensive multi-mode quantum treatment based on the truncated Wigner approximation to study discrete time crystals in continuous systems, such as a Bose-Einstein condensate bouncing resonantly on an oscillating mirror.

[1] Jia Wang, Peter Hannaford, and Bryan J Dalton, *New J. Phys.* **23**, 063012 (2021).

[2] Jia Wang, Krzysztof Sacha, Peter Hannaford, and Bryan J. Dalton, *Phys. Rev. A* **104**, 053327 (2021).