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Title: Generalized acceleration theorem for spatiotemporal Bloch waves

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Abstract: A representation is put forward for wave functions of quantum particles in periodic lattice potentials subjected to homogeneous time-periodic forcing, based on an expansion with respect to Bloch-like states which embody both the spatial and the temporal periodicity. It is shown that there exists a generalization of Bloch's famous acceleration theorem which grows out of this representation and captures the effect of a weak probe force applied in addition to a strong dressing force. Taken together, these elements point at a "dressing and probing" strategy for coherent wave-packet manipulation, which could be implemented in present experiments with optical lattices.