

Erratum: Periodically Driven Quantum Systems: Effective Hamiltonians and Engineered Gauge Fields [Phys. Rev. X **4**, 031027 (2014)]

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An erroneous factor of 2 has been identified in the last term of Eq. (C10) in Appendix C. Indeed, the full expression for the effective Hamiltonian evaluated up to second order $\mathcal{O}(1/\omega^2)$ should read

$$\begin{aligned} \hat{H}_{\text{eff}} = & \hat{H}_0 + \frac{1}{\omega} \sum_{j=1}^{\infty} \frac{1}{j} [V^{(j)}, V^{(-j)}] + \frac{1}{2\omega^2} \sum_{j=1}^{\infty} \frac{1}{j^2} ([V^{(j)}, \hat{H}_0], V^{(-j)} + \text{H.c.}) \\ & + \frac{1}{3\omega^2} \sum_{j,l=1}^{\infty} \frac{1}{jl} ([V^{(j)}, [V^{(l)}, V^{(-j-l)}]] - [V^{(j)}, [V^{(-l)}, V^{(l-j)}]] + \text{H.c.}). \end{aligned} \quad (\text{C10})$$

We emphasize that this typo had no impact on the rest of the article. We also note that the expression (C10) is strictly equivalent to the effective Hamiltonian recently obtained by Eckardt and Anisimovas using a different approach; see Eqs. (105)–(109) in Ref. [1].

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- [1] A. Eckardt and E. Anisimovas, *Consistent High-Frequency Approximation for Periodically Driven Quantum Systems*, [arXiv:1502.06477v1](https://arxiv.org/abs/1502.06477v1).