Erratum: Franson Interference Generated by a Two-Level System [Phys. Rev. Lett. 118, 030501 (2017)]

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(Received 24 July 2017; published 18 August 2017)

DOI: [10.1103/PhysRevLett.119.079904](https://doi.org/10.1103/PhysRevLett.119.079904)

In our Letter, we referred to a future potential for violating Bell's inequalities by exceeding Franson visibilities of 70.7% [1]. However, it has been brought to our attention by Jogenfors *et al.* [2] that even if such visibilities were achieved, the violation of standard Bell's inequalities based on Franson interferometry is subject to postselection loopholes. For more definitive exclusion of local hidden variable theories a refined experimental setup (e.g., a three-setting chained Bell inequality experiment) [3,4] would be needed. Therefore, the relevant statements occurring at the last sentence of the abstract, line 18 of the right column on page 1, the last sentence of the Fig. 4 caption, and line 16 of the left column on page 4 stating that visibilities “approach the limit of violation of Bell's inequalities (70.7%)” should be updated to read that “with improved experimental capabilities our approach can lead to a violation of Bell's inequalities.” Note that in our current experiment, Bell's inequalities are neither formed nor violated and the results in the Letter remain unchanged.

We are grateful to Jonathan Jogenfors, Adán Cabello, and Jan-Åke Larsson for bringing this to our attention.

- [1] J. G. Rarity and P. R. Tapster, *Phys. Rev. Lett.* **64**, 2495 (1990).
- [2] J. Jogenfors, A. Cabello, and J.-Å. Larsson, [arXiv:1703.05055](https://arxiv.org/abs/1703.05055).
- [3] S. Aerts, P. Kwiat, J.-Å. Larsson, and M. Żukowski, *Phys. Rev. Lett.* **83**, 2872 (1999).
- [4] J. Jogenfors and J.-Å. Larsson, *J. Phys. A* **47**, 424032 (2014).