

**Avron *et al.* Reply:** In the preceding Comment [1], Pathak and Hughes claim that they correct an error in our Letter [2], and claim to perform an exact calculation instead of an approximation we make. Their claim is incorrect. Our Letter is correct and to the best of our knowledge, free of any errors.

In our Letter we calculated the theoretical optimum for the entanglement that can be obtained by time reordering. Pathak and Hughes present results for the special case of a linear phase shifter. Pathak and Hughes do not correct our results, but rather discuss a special case which, of course, gives weaker results. Furthermore, the special case Pathak and Hughes discuss is not necessarily the only possible implementation.

We also note that the results of Pathak and Hughes are not new and are contained in the results presented in Fig. 3(c) of Troiani and Tejedor [3] (Ref. [3] of Pathak and Hughes).

Finally, Pathak and Hughes doubt the feasibility of any other scheme for time reordering other than the simple linear phase shifter that they analyze. To counter this view-

point we would like to quote from Richard Feynman and Val Telegdi: “Yesterday’s discovery is today’s calibration and tomorrow’s background.”

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- [1] P. K. Pathak and S. Hughes, preceding Comment, Phys. Rev. Lett. **103**, 048901 (2009).
- [2] J. E. Avron *et al.*, Phys. Rev. Lett. **100**, 120501 (2008).
- [3] F. Troiani and C. Tejedor, Phys. Rev. B **78**, 155305 (2008).