systems as the environment in a decoherence experiment.

---

[1] W. H. Zurek, Rev. Mod. Phys. **75**, 715 (2003).

[2] M. Nielsen and I. Chuang, *Quantum Computation and Quantum Information* (Cambridge University Press, Cambridge, UK, 2000).

[3] H. T. Quan, Z. Song, X. F. Liu, P. Zanardi, and C. P. Sun, Phys. Rev. Lett. **96**, 140604 (2006).

[4] F. M. Cucchietti, S. Fernandez-Vidal, and J. P. Paz, Phys. Rev. A **75**, 032337 (2007).

[5] C. Cormick and J. P. Paz, Phys Rev. A **77**, 022317 (2008).

[6] D. Rossini, T. Calarco, V. Giovannetti, S. Montangero, and R. Fazio, Phys. Rev. A **75**, 032333 (2007).

[7] P. Cejnar, S. Heinze, and M. Macek, Phys. Rev. Lett. **99**, 100601 (2007).

[8] P. Cejnar and J. Jolie, arXiv:0807.3467 (2008).

[9] W. D. Heiss, F. G. Scholtz, and H. B. Geyer, J. Phys. A **38**, 1843 (2005); F. Leyvraz and W. D. Heiss, Phys. Rev. Lett. **95**, 050402 (2005); W. D. Heiss, J. Phys. A **39**, 10081 (2006).

[10] S. Heinze, P. Cejnar, J. Jolie, and M. Macek, Phys. Rev. C **73**, 014306 (2006); M. Macek, P. Cejnar, J. Jolie, and S. Heinze, Phys. Rev. C **73**, 014307 (2006); P. Cejnar, M. Macek, S. Heinze. J. Jolie, and J. Dobes, J. Phys. A **39**, L515 (2006).

[11] M. A. Caprio, P. Cejnar, and F. Iachello, Ann. Phys **323**, 1106 (2008).

[12] J. Vidal, J. M. Arias, J. Dukelsky, J. E. García-Ramos, Phys. Rev. C **73**, 054305 (2006); J. M. Arias, J. Dukelsky, J. E. García-Ramos, and J. Vidal, Phys. Rev. C **75**, 014301 (2007).

[13] D. Bonatsos, E. A. McCutchan, R. F. Casten, and R. J. Casperson, Phys. Rev. Lett. **100**, 142501 (2008).