ERRATA


As a result of an error in the interpretation of the coefficients from the Fourier-transform algorithm, the computational growth rates in Fig. 1 are too small. All the computational growth rates in Fig. 1 (crosses) should be multiplied by 2. This does not affect any other figures, nor are the conclusions affected in any way. We apologize to the reader for any inconvenience.


K. A. McEwan and H. Godfrin participated in the experiments at Institut Laue-Langevin that detected the helium-gas scattering reported in a previous Erratum [Phys. Rev. Lett. 56, 996 (1986)]. Their contributions were not acknowledged because of editorial error.


Bohigas, Giannoni, and Schmit,1 and Berry, Meredith, and Koppel2 pointed out to us that the conclusion regarding level fluctuations in our recent Letter3 was incorrect because of an improper treatment of exact symmetries. After examining our data according to the suggestions which they provided, we have reached the conclusion that our previous conclusion was indeed incorrect. We would like to present the correctly analyzed data here which, contrary to our previous conclusion, actually give further support to the conjecture formulated by Bohigas, Giannoni, and Schmit4 and by Meyer, Haller, Koppel, and Cederbaum5 concerning the correspondence between the Gaussian-orthogonal-ensemble level fluctuation and classical chaotic motion, and between the Poisson level fluctuation and classical regular motion.

When we separate out the energy levels according to six symmetry classes,1 the distributions of spectral fluctuations for a typical class are as shown in Fig. 1 for two different values of the coupling parameter: C = 3 and C = 10. The distribution curve for C = 3, corresponding to classical regular motion, is of the Poisson type while the distribution curve for C = 10, corresponding to classical mostly chaotic motion, is of the Gaussian-orthogonal-ensemble type. We have used the description “mostly chaotic” for the case C = 10 because we have found6 that there are initial conditions for which the classical motion is regular for C = 10, but compared to the entire set of initial conditions, the regular subset appears to be negligible.

1O. Bohigas, M. J. Giannoni, and C. Schmit, “Spectral Fluctuation and Chaotic Motion” (to be published).
2M. V. Berry, D. Meredith, and H. Koppel, private communication.