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ERRATUM

Erratum to: Atomic "bomb testing": the Elitzur–Vaidman experiment violates the Leggett–Garg inequality

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In the original version of the article, the shaded band in Fig. 3 representing the theoretical model was omitted. The original article has been revised to provide the correct figure (Fig. 3), which is also shown below.

The online version of the original article can be found under doi:10.1007/s00340-016-6581-y.

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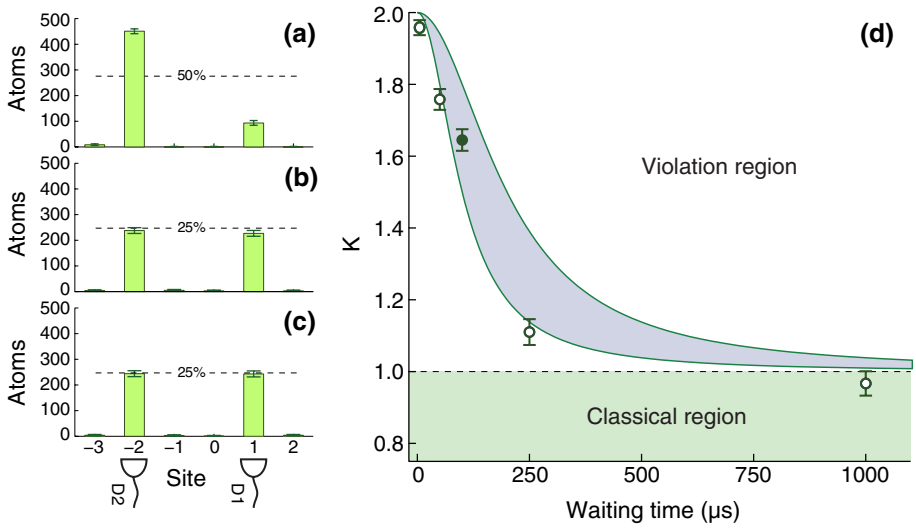

Fig. 3 Experimental violation of the Leggett–Garg inequality in the quantum-to-classical transition. From **a** to **c**, distributions at time t_3 of the detected atom at sites D1 and D2 for a waiting time of 100 μs, corresponding to the solid point in (d) for three different protocols. **a** Without the $Q(t_2)$ measurement (left-hand-side protocol in Fig. 2). **b** With the $Q(t_2)$ measurement shifting atoms in $|\uparrow\rangle$ away at time t_2 (right-hand-side protocol in Fig. 2). **c** The same but with atoms in $|\downarrow\rangle$ shifted away. **d** Values of the Leggett–Garg correlation function K of Eq. (2) for increasing waiting times between the two $\pi/2$ pulses. Decoherence gradually suppresses the quantum behavior of the atom. The *shaded band* represents the theoretical quantum-mechanical prediction for coherence times between 75 and 200 μs caused by differential scalar light shift [40]. Percentage values are referred to the total number of interrogated atoms in each dataset. The *vertical error bars* represent 1 σ statistical uncertainty