Erratum: High-precision atomic clocks with highly charged ions: Nuclear-spin-zero f^{12}-shell ions [Phys. Rev. A 86, 054501 (2012)]

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(Received 12 February 2013; published 25 February 2013)

DOI: 10.1103/PhysRevA.87.029906 PACS number(s): 31.15.A−, 11.30.Er, 99.10.Cd

There is a sign error in formula (6) of our Brief Report. The formula, which expresses the clock frequency of the transition between two states J_1, M_1 and J_2, M_2 should read

$$\omega = \omega_0 + (-C_{J_1,M_1} Q_{J_1} + C_{J_2,M_2} Q_{J_2}) \frac{\partial E_z}{\partial z}, \tag{6}$$

where ω_0 is the unperturbed clock frequency. We assume that level 2 is above level 1. The expression for the unperturbed frequency ω_0 still holds

$$\omega_0 = \frac{\omega_1 - A\omega_2}{1 - A}, \tag{7}$$

however, the expression for A changes to

$$A = \frac{-C_{J_1,M_1}(Q_{J_1}/Q_{J_2}) + C_{J_2,M_2}}{-C_{J_1,M_1'}(Q_{J_1}/Q_{J_2}) + C_{J_2,M_2'}}. \tag{8}$$

Expression (10) is not valid anymore, and Table III should be replaced by the table below.

The authors are grateful to A. Kozlov for bringing this error to our attention.

TABLE III. Transitions convenient for use in suppressing the electric quadrupole shift. J_1, M_1 are the total angular momentum and its projection for the ground state, J_2, M_2 are the total angular momentum and its projection for the clock state, A is given by (8), $c_1 = 1/(1 - A)$, and $c_2 = A/(A - 1)$ ($\omega_0 = c_1\omega_1 + c_2\omega_2$). We consider extreme values of Q_6/Q_4 from Table II.

		$Q_6/Q_4 = -17$			$Q_6/Q_4 = -10$		
J_1, M_1–J_2, M_2	J_1, M_1'–J_2, M_2'	A	c_1	c_2	A	c_1	c_2
6,1–4,2	6,5–4,4	−1.0875	0.4790	0.5210	−1.0325	0.4920	0.5080
6,1–4,3	6,5–4,4	−1.0311	0.4923	0.5077	−0.9432	0.5146	0.4854
6,2–4,0	6,5–4,3	−0.9647	0.5090	0.4910	−1.0019	0.4995	0.5005
6,2–4,1	6,5–4,3	−0.9525	0.5122	0.4878	−0.9814	0.5047	0.4953

