01 Jun 2005

Erratum: Nonrelativistic QED Approach to the Bound-Electron g Factor (Phys. Rev. Lett. (2004) 93 (150401))

Krzysztof Pachucki

Ulrich D. Jentschura
Missouri University of Science and Technology, ulj@mst.edu

Vladimir A. Yerokhin

Recommended Citation

K. Pachucki et al., "Erratum: Nonrelativistic QED Approach to the Bound-Electron g Factor (Phys. Rev. Lett. (2004) 93 (150401))," *Physical Review Letters*, vol. 94, no. 22, American Physical Society (APS), Jun 2005. The definitive version is available at https://doi.org/10.1103/PhysRevLett.94.229902

Erratum: Nonrelativistic QED Approach to the Bound-Electron g Factor [Phys. Rev. Lett. 93, 150401 (2004)]

Krzysztof Pachucki, Ulrich D. Jentschura, and Vladimir A. Yerokhin

(Received 17 May 2005; published 7 June 2005)

DOI: 10.1103/PhysRevLett.94.229902 PACS numbers: 12.20.Ds, 31.15.-p, 31.30.Jv, 99.10.Cd

In a recently published Letter we have erroneously introduced an overall factor of 2 for the two-loop correction to the bound-electron g factor. Consequently, the right-hand side of Eqs. (11), (13) and the numerical value of the entry ''Binding QED, $\sim(\alpha/\pi)^2(Z\alpha)^4$'' in Table II (both the correction and the uncertainty) should be divided by 2. The total value for the g factor (the last line of Table II) becomes 2.001 041 590 32(6) for carbon and 2.000 047 020 75(17) for oxygen. The numerical values for the electron mass derived from the g factor values [Eqs. (14) and (15)] should read

$$m(^{12}C^{5+}) = 0.000\,548\,579\,909\,35(29)(2)\text{u}, \tag{1}$$

$$m(^{16}O^{7+}) = 0.000\,548\,579\,909\,72(41)(5)\text{u}. \tag{2}$$

