Erratum: Isotope shifts in francium isotopes $^{206-213}$Fr and ^{221}Fr [Phys. Rev. A 90, 052502 (2014)]

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A King plot in our publication used literature D_2 isotope shifts along with our D_1 isotope shift measurements to extract combinations of the mass and field shift constants to compare with theory. The ^{206}Fr point was in strong disagreement with the linear fit of the King plot. This 10σ discrepancy has been resolved with an updated D_2 isotope shift [1], determined using more data with better frequency resolution, and we now include it in our King plot analysis. Additionally, the D_2 isotope shift and ground-state hyperfine splitting for the isomer ^{206m}Fr are now available [1]. This enables us to determine its D_1 isotope shift and include it in our King plot.

We include revised versions of Fig. 4 and Table I here. The revised King plot now has slope $F_{D_2}/F_{D_1} = 1.0521(8)$ and intercept $(N_{D_2} + S_{D_2}) - (N_{D_1} + S_{D_1})\frac{F_{D_2}}{F_{D_1}} = 194(78)$ GHz amu with $\chi^2/ndf = 7.00094/7$. Evaluating the normal mass shift constants

TABLE I. Revision and addition to Table I, using our measured D_1 isotope shifts and the nuclear spins, D_2 isotope shifts, and ground-state hyperfine splittings from [1]. The D_2 isotope shifts are recalculated using ^{221}Fr as the reference isotope as in our previous paper.

	Our paper		Ref. [1]		
Isotope	$A(P_{1/2})$ (MHz)	$D_1\delta\nu_{IS}$ (MHz)	Spin	$A(S_{1/2})$ (MHz)	$D_2\delta\nu_{IS}$ (MHz)
206m	869.91(8)	29236(5)	7	6616.0(7)	30689(5)
206	1716.9(2)	29175(5)	3	13052.2(18)	30637(5)

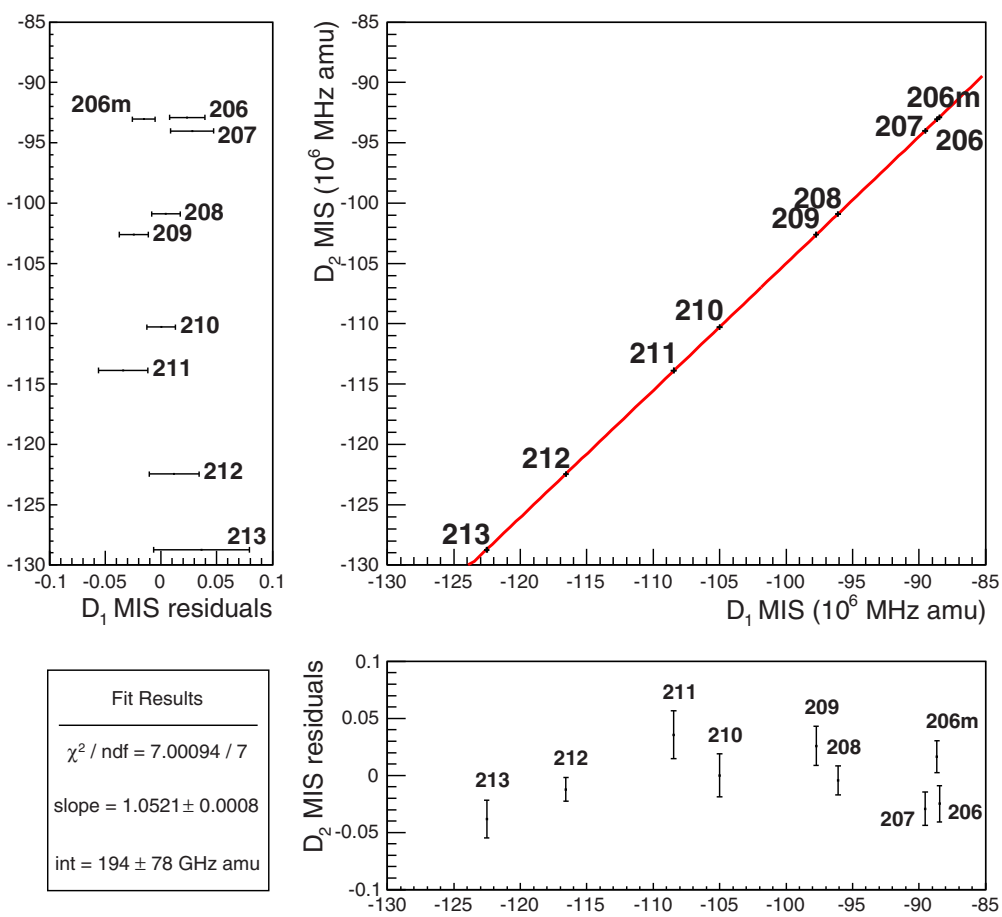

FIG. 1. (Color online) Revised Fig. 4. The King plot fit now includes ^{206}Fr and ^{206m}Fr.

produces the specific mass shift constant difference $\delta\mathcal{S}$ between the two transitions $\delta\mathcal{S} = S_{D_2} - S_{D_1}\frac{F_{D_2}}{F_{D_1}} = 176(78)$ GHz amu. The main conclusions on the specific mass shift difference and the field shift ratio are unchanged. This reaffirmed precise result becomes a possibly useful constraint on higher-order physics contributing to a King plot.

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[1] A. Voss, F. Buchinger, B. Cheal, J. E. Crawford, J. Dilling, M. Kortelainen, A. A. Kwiatkowski, A. Leary, C. D. P. Levy, F. Mooshammer, M. L. Ojeda, M. R. Pearson, T. J. Procter, and W. A. Tamimi, Nuclear moments and charge radii of neutron-deficient francium isotopes and isomers, Phys. Rev. C **91**, 044307 (2015).