Erratum: Magnetic properties of $(\text{Fe}_{1-x}\text{Co}_x)_2\text{B}$ alloys and the effect of doping by $5d$ elements **[Phys. Rev. B *92*, 174413 (2015)]**

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Orbital magnetic moments and thus total magnetic moments obtained with the FPLO14.00-47 code and presented in this paper are incorrect. According to the FPLO developers announcement from 8 February 2016 regarding version FPLO14.00-49, the new release fixes a bug in the printout of the orbital moments. In FPLO14.00-47 the calculated orbital magnetic moments were unnecessarily divided by the number of sites created from one Wyckoff position after relativistic symmetry reduction. In the $(\text{Fe}_{1-x}\text{Co}_x)_2\text{B}$ compound studied in the relevant work, the Fe/Co site multiplicity was 4 and for B site it was 2. Table I presents the correct magnetic moments.

Furthermore, the incorrect orbital and total magnetic moments affect the results presented in original Figs. 4(a), 7, 8, and 9. The corrected versions of these figures are presented here as Figs. 1, 2, 3, 4.

The most noticeable change is in Fig. 2, which presents the orbital magnetic moments as function of Co concentration. In this case all values are multiplied by 4 in comparison to the corresponding original figure.

FIG. 1. MAE as a function of total magnetic moment on the 3d atom for Fe_2B and Co_2B as calculated with FSM FPLO.

FIG. 2. The orbital magnetic moment μ_L and difference of μ_L 's for [100] and [001] quantization axis as functions of x in $(\text{Fe}_{1-x}\text{Co}_x)_2\text{B}$, calculated with FPLO treating disorder by the VCA.

TABLE I. Magnetic moments for Fe_2B and Co_2B .

	3d element			B			formula		
	μ_s	μ_l	$\mu_s + \mu_l$	μ_s	μ_l	$\mu_s + \mu_l$	M_S	M_L	$M_S + M_L$
Fe_2B incorrect	1.973	0.011	1.984	-0.258	0.001	-0.257	3.689	0.023	3.712
Fe_2B correct	1.973	0.044	2.017	-0.258	0.002	-0.256	3.689	0.090	3.889
Co_2B incorrect	1.082	0.010	1.092	-0.104	0.001	-0.103	1.956	0.021	1.977
Co_2B correct	1.082	0.040	1.122	-0.104	0.002	-0.102	1.956	0.082	2.038

FIG. 3. Total and species-resolved magnetic moments as functions of x in $(\text{Fe}_{1-x}\text{Co}_x)_2\text{B}$. Experimental values from Ref. [1], theoretical moments calculated with FPLO treating disorder by the VCA.

FIG. 4. Fully relativistic FPLO calculations of MAE as a function of x and total magnetic moment (μ_{S+L}) on 3d atom for $(\text{Fe}_{1-x}\text{Co}_x)_2\text{B}$. Disorder was treated by the VCA and μ_{S+L} were stabilized with fixed spin moment FSM approach. Equilibrium μ_{S+L} 's (see Fig. 3) are denoted by black dots.

Because the orbital magnetic moment is only a small fraction of the total moment, its effect on the rest of the presented results is minor. Above all, the conclusions of our work are not affected by this error.

[1] M. C. Cadeville and I. Vincze, [J. Phys. F: Met. Phys.](#) **5**, 790 (1975).