## Erratum: Properties of multiferroic BiFeO<sub>3</sub> under high magnetic fields from first principles [Phys. Rev. B 79, 012101 (2009)]

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We recently found an error in the numerical code that was developed in our paper, in order to investigate low-temperature properties of BiFeO<sub>3</sub> bulk under high magnetic fields applied in the plane perpendicular to the pseudo-cubic [111] direction (which is the ground-state direction of the polarization and about which the oxygen octahedra tilt). Fortunately, all the major issues in our paper are unaffected by this error. On the other hand, a "relatively minor" prediction has to be changed due to this error: the antiferromagnetic (L) and ferromagnetic (M) vectors of BiFeO<sub>3</sub> bulk under the applied magnetic fields are now both found to always be *perpendicular* to the pseudo-cubic [111] direction—unlike in our paper, where they were sometimes deviating away from the (111) plane.