**NUCLEAR MAGNETIC DIPOLE MOMENT FROM NMR EXPERIMENTS: 209BI**

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**Abstract**

The values of the nuclear magnetic dipole moments given in the standard reference tables are based mainly on NMR experiments done in 1950-1970's. They were obtained using the measured frequency ratios for a pair of nuclei and the corresponding absolute shielding constants (i.e., defined with respect to bare nucleus). Nowadays much more accurate values of the shielding constants can be determined from state-of-the art ab initio calculations.

The magnetic dipole moments of a series of nuclei have been corrected (see [1-3] and references therein) – beginning with the values determined applying accurate calculations for isolated small molecules including only light nuclei and accurate resonance frequencies from gas phase NMR.

Recently, new values of 209Bi magnetic moment derived from NMR experiments and calculated shielding constants of Bi3+ ions in aqueous solutions of bismuth salts have been studied. In this case, a huge relativistic contribution to the shielding and significant solvent effects have to be estimated.

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