Hi Arnaud,

I did the probe calibration twice and compared the calibrations:

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It is difficult to see from the picture, but there is a big difference of 2G at high fields (1.5T).

When I looked at residuals, I’ve noticed a pattern in both calibrations, see picture below. It looks like there is a big drift in something.



First, I’ve checked the probe temperature. It looked fine.



Second, I have checked, if NMR calibration is correct. Since I have NMR probes with overlapping range, I have measured the same field with two NMR probes and compared the results. There was no significant differences detected (<0.02G).

Third, I have checked voltmeter w.r.t. a voltage standard we have. No changes.

The next should be the probe. I have set-up the system, so the probe is inside the calibration magnet. I’ll set a constant current to the magnet and measure the following parameters for a few hours:

* Field by NMR
* Voltage from Hall probe
* Temperature of the chip
* Temperature of the box of electronics
* temperature inside the magnet (water cooled copper block with Hall probe).

I would like to do it for a few different currents corresponding to max field, min field and one or two points in the middle.

For sure, I could do it with our probe, if you would like yours back ASAP. The calibration should be good enough for measurements with 10-4 accuracy. I would not recommend to use probe data for field integrals measurements.