Hi Rade,

I need your help again to solve a problem with Hall probes we have purchased a year ago; S/N 117-14, 118-14, 027-14, and 028-14. Measuring a reference undulator I have noticed dependence of the probes’ output on sampling frequency, see below:

|  |  |  |
| --- | --- | --- |
| Signal frequency (Hz) | Senis 118-114 peak field (T) | Sentron 463 peak field (T) |
| 0.33 | 1.276085 | 1.276314 |
| 0.67 | 1.274817 | 1.276309 |
| 1.33 | 1.273279 | 1.276304 |
| 2.67 | 1.269586 | 1.276329 |

As you see, our old Sentron S/N 463 probe does not have such dependence.

It is a huge attenuation of the signal more than 10-3. It is very critical for us since we should do the measurements at 10-4 level or better.

Do you have any idea, what could it be?

The Sentron probe has frequency bandwidth ft>1kHz. New Senis probes, from manual, have ft = 500Hz. If it is not 500Hz but lower, it could be a problem for us. By my estimation based on measurements the ft is around 50Hz. What is the real bandwidth of these probes, do you have this data?

We’ll appreciate your help.

P.S. I have measured the elec.box temperature also. It does not deviate more than 0.1C, which shouldn’t be such a big problem.