

**Universität
Stuttgart**

Progresses on **PETER** Project

UNISTUTT

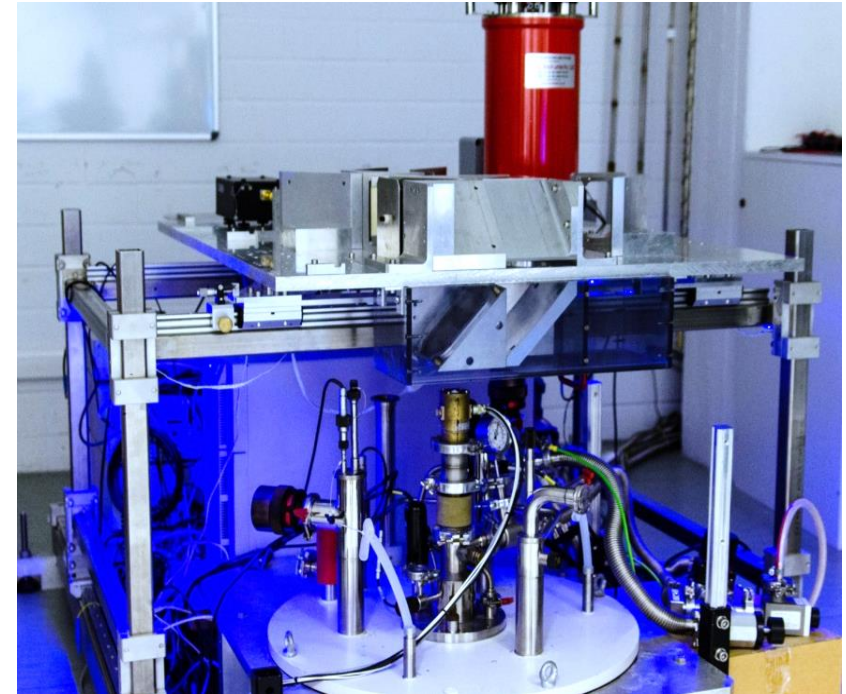
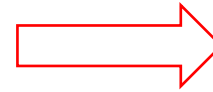
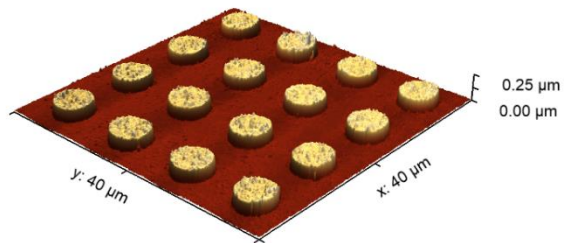
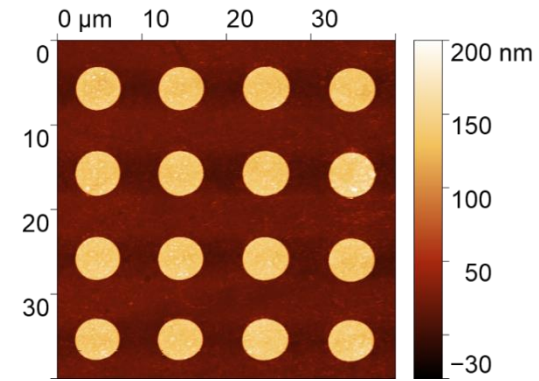
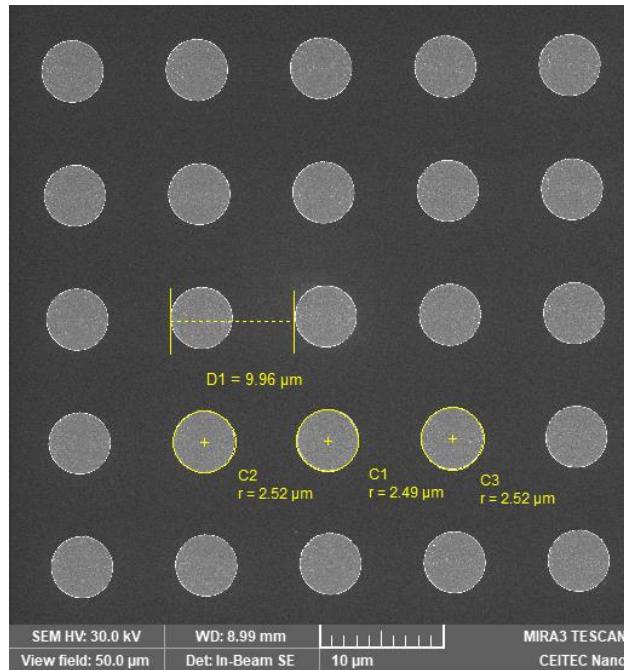
19th of March 2021

HFEP R measurements of NiFe disks

NiFe discs test sample:

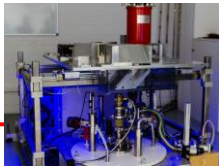
Sample layout:

NiFe discs ($D=5\ \mu\text{m}$), periodicity of $10\ \mu\text{m}$
on fused silica substrate

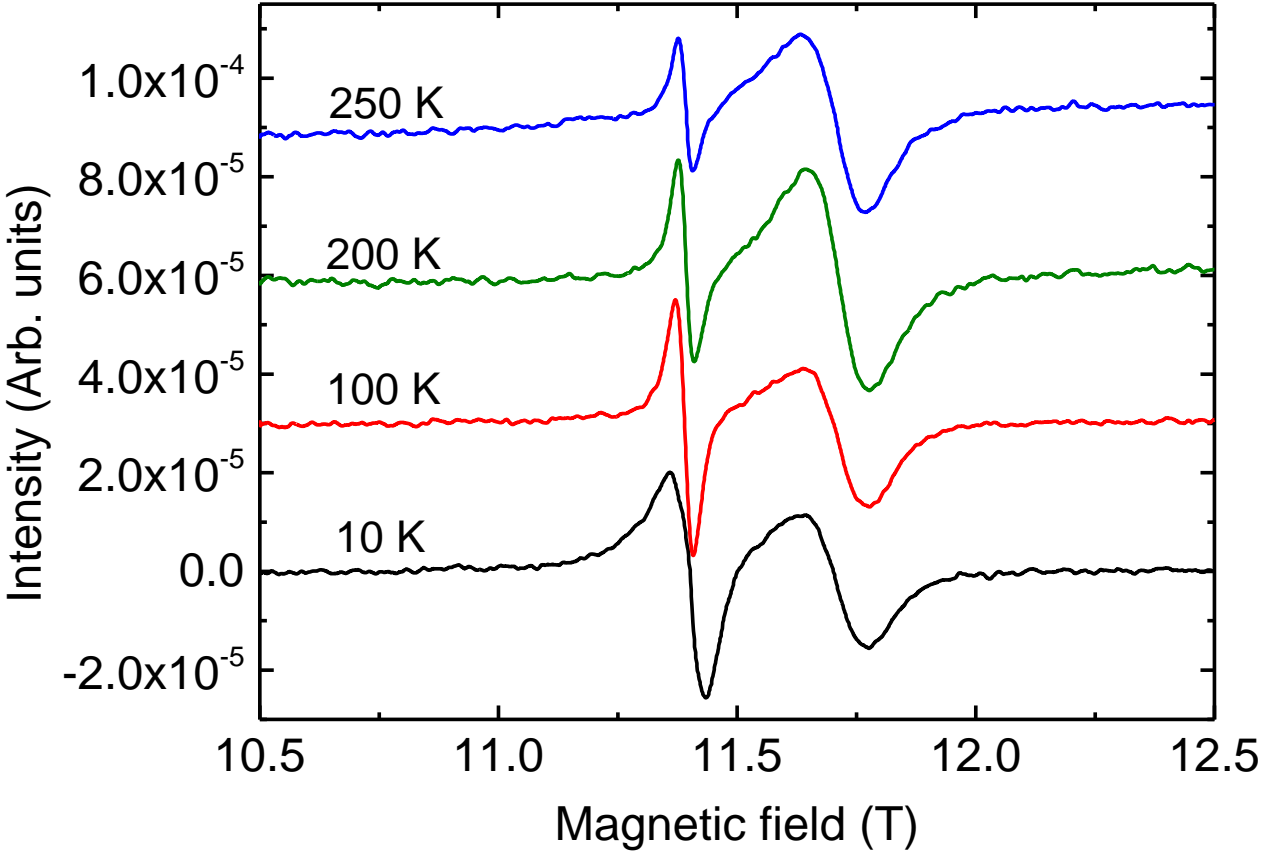


Surface coverage of NiFe: $\pi/16 \approx 20\ \%$

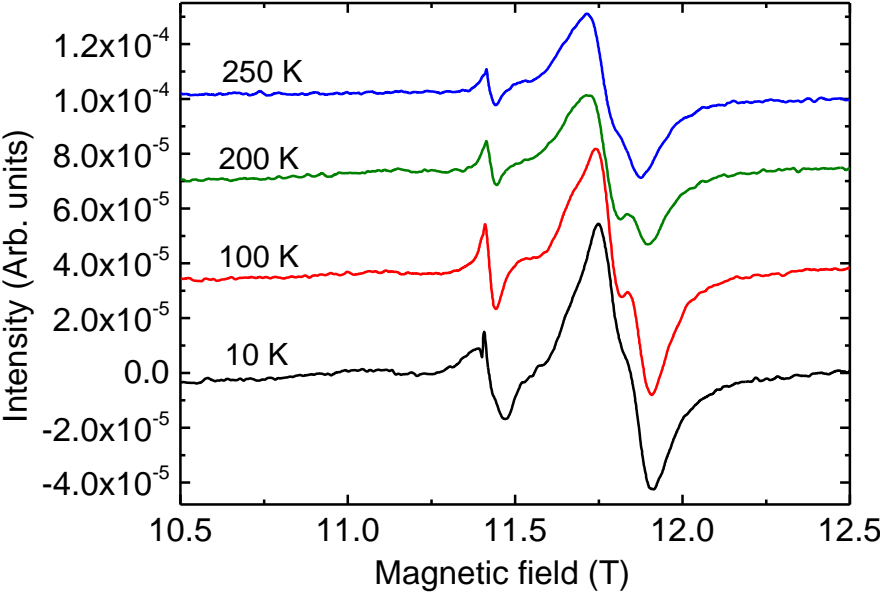
HF-EPR measurements of NiFe disks



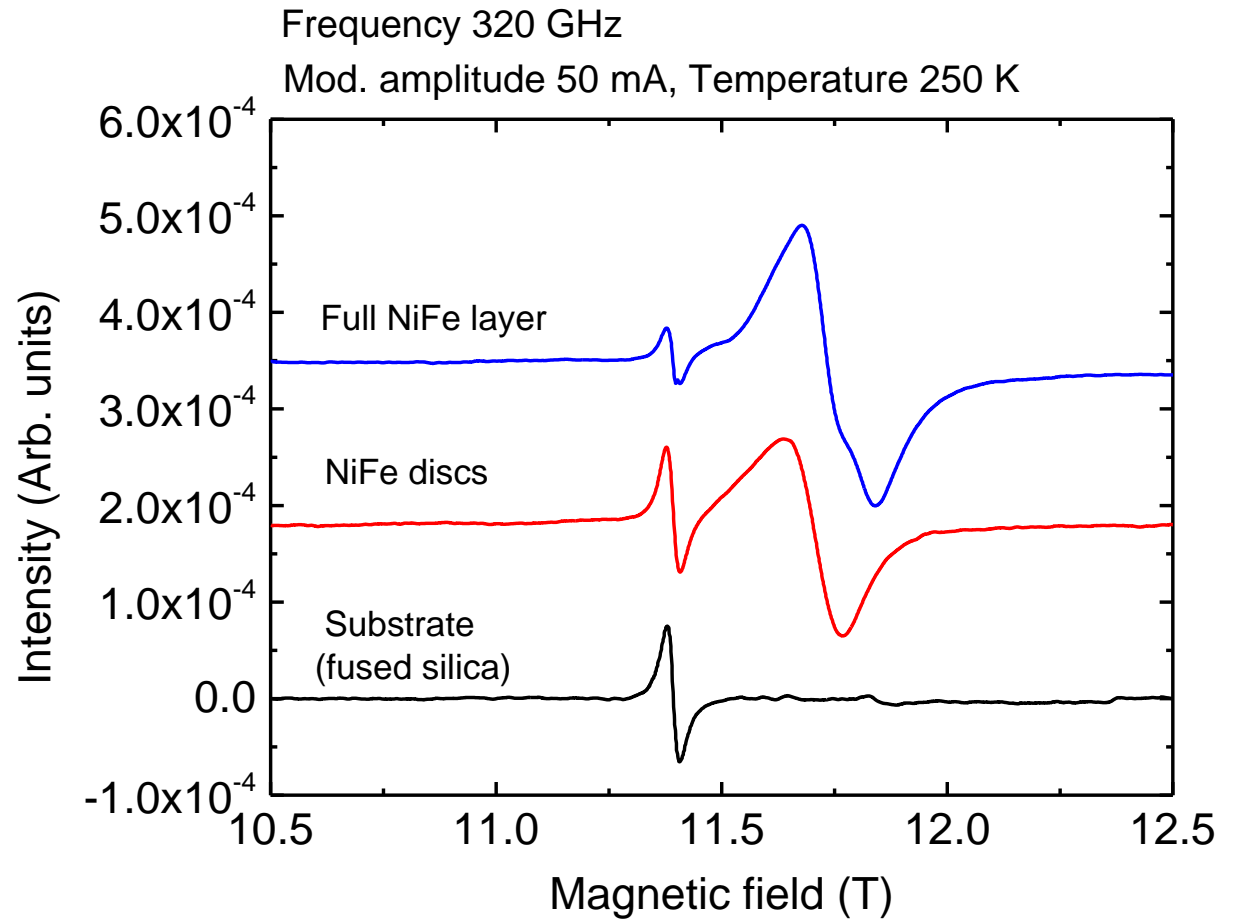
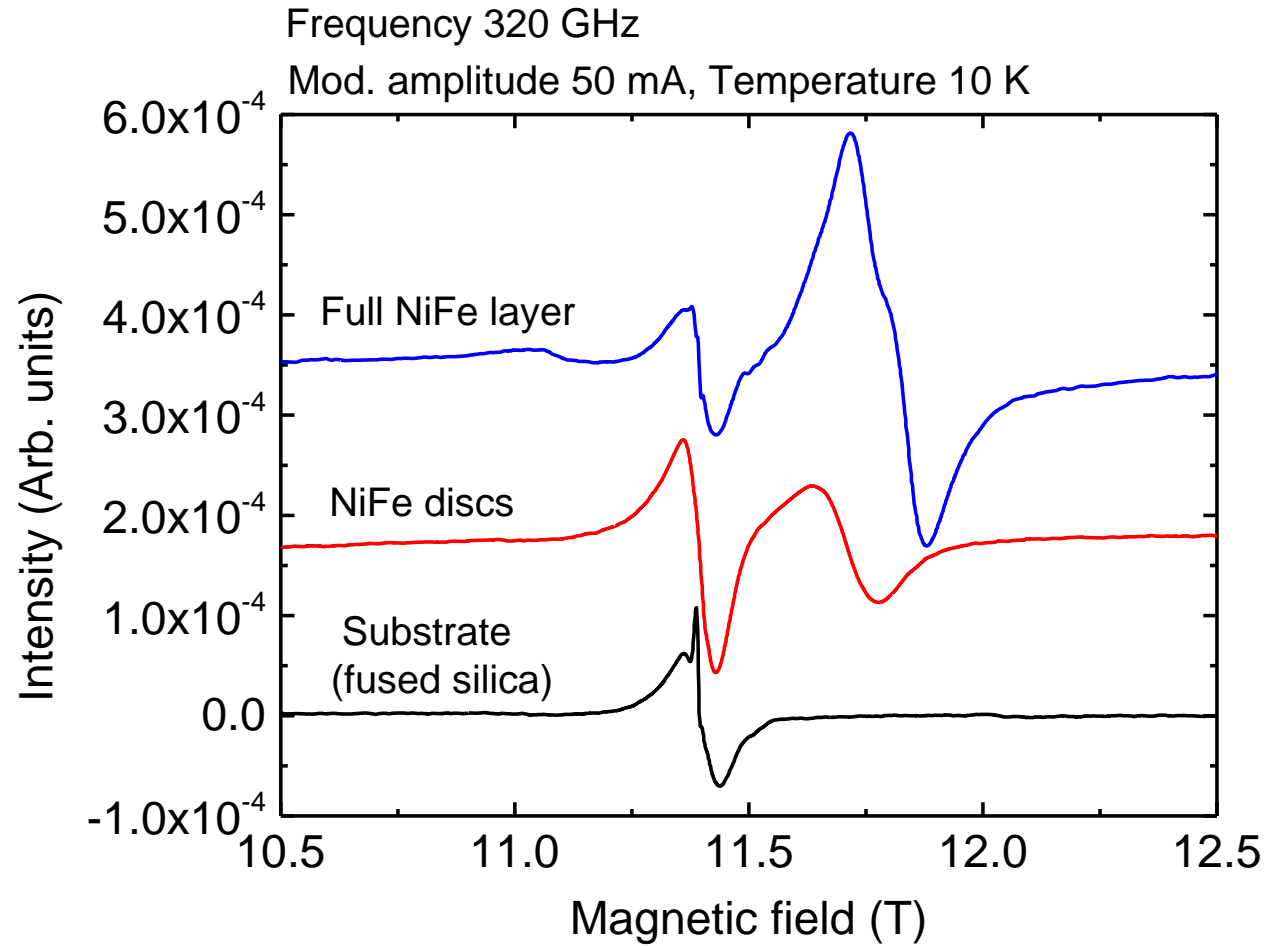
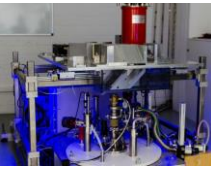
NiFe discs on fused silica
Frequency 320 GHz, Mod. amplitude 10 mA



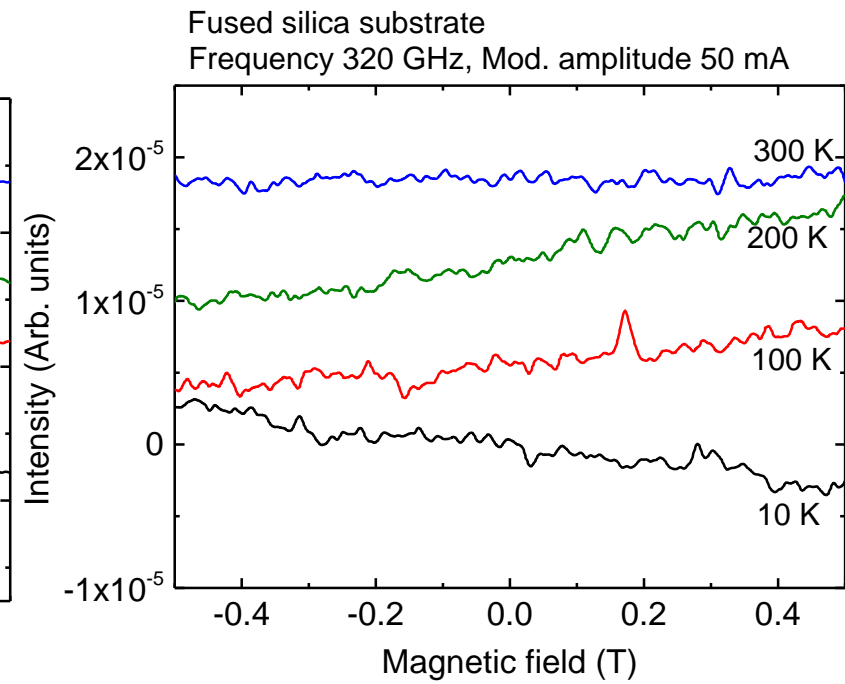
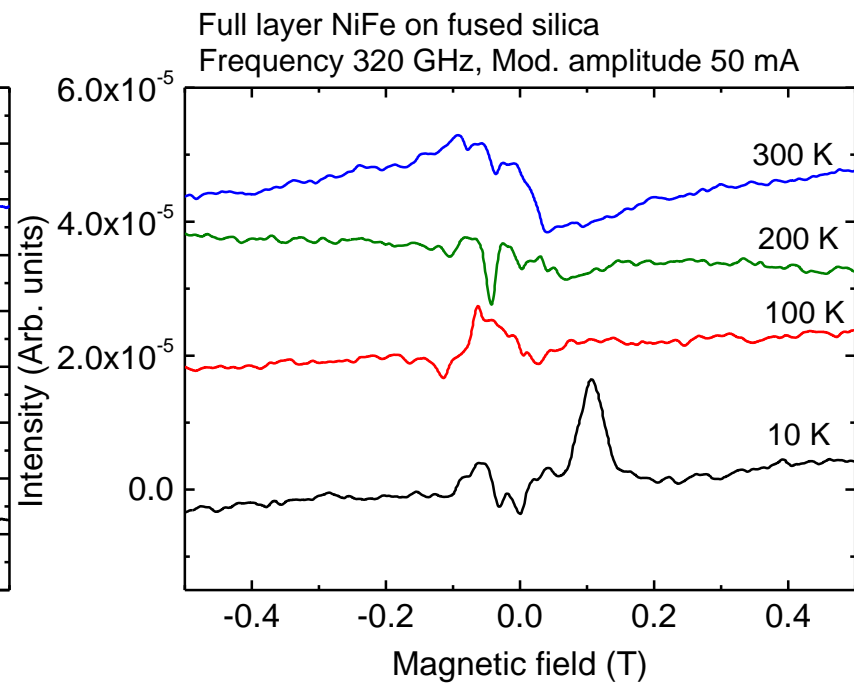
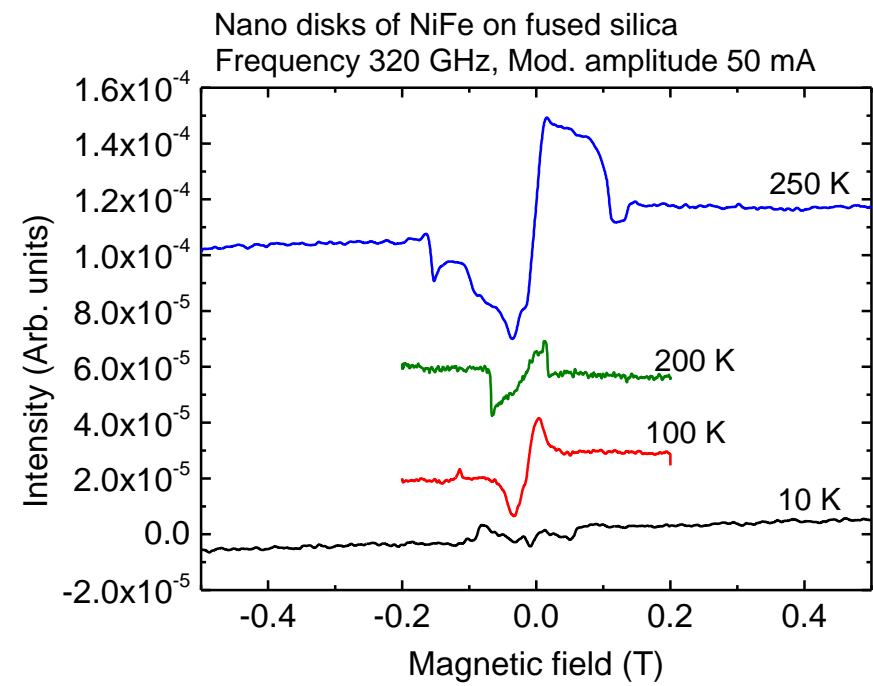
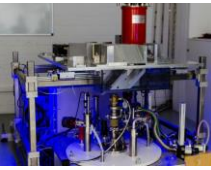
Full layer of NiFe on fused silica
Frequency 320 GHz, Mod. amplitude 10 mA



HFEP R measurements of NiFe disks



HFEPR measurements of NiFe disks



PETER measurements of NiFe disks

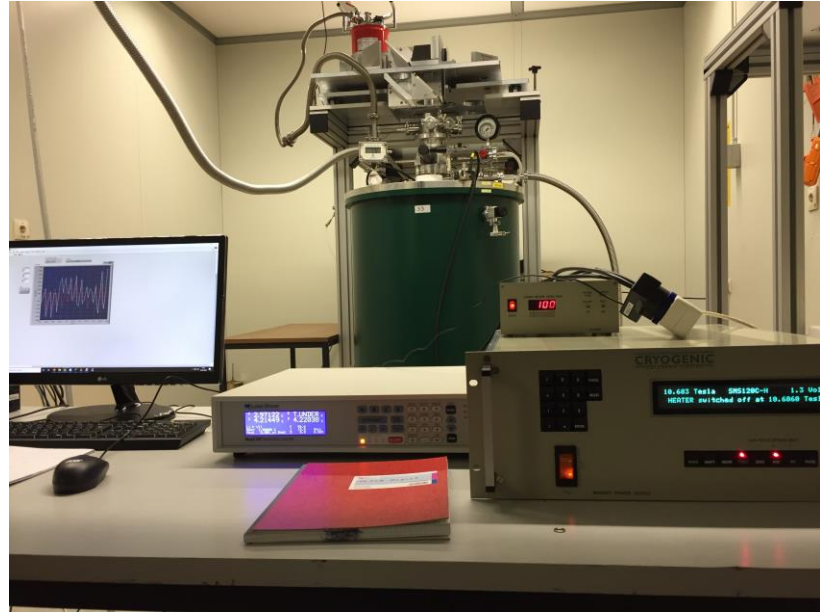
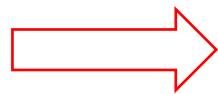
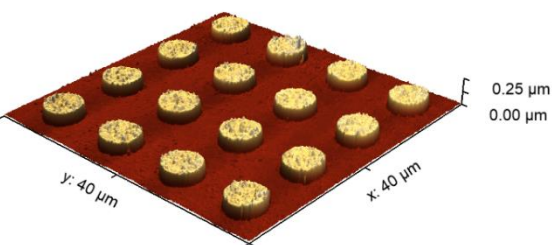
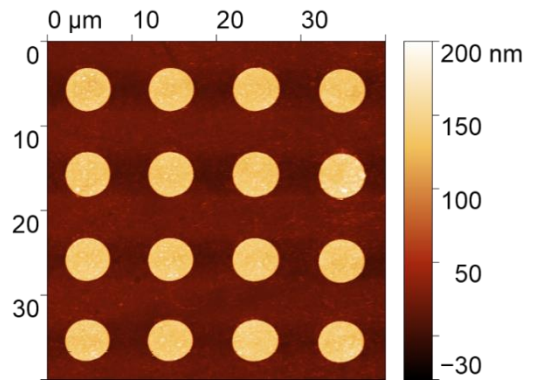
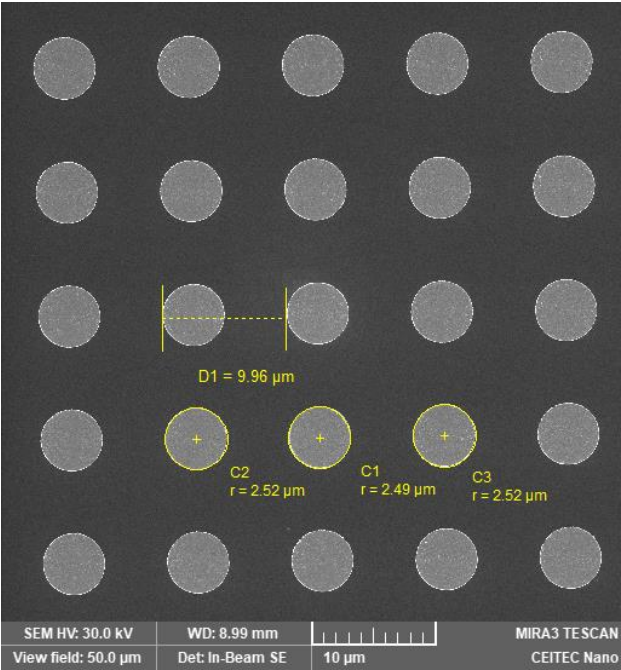
NiFe discs test sample:

Sample layout:

NiFe discs ($D=5 \mu\text{m}$), periodicity of $10 \mu\text{m}$ on fused silica substrate

Results:

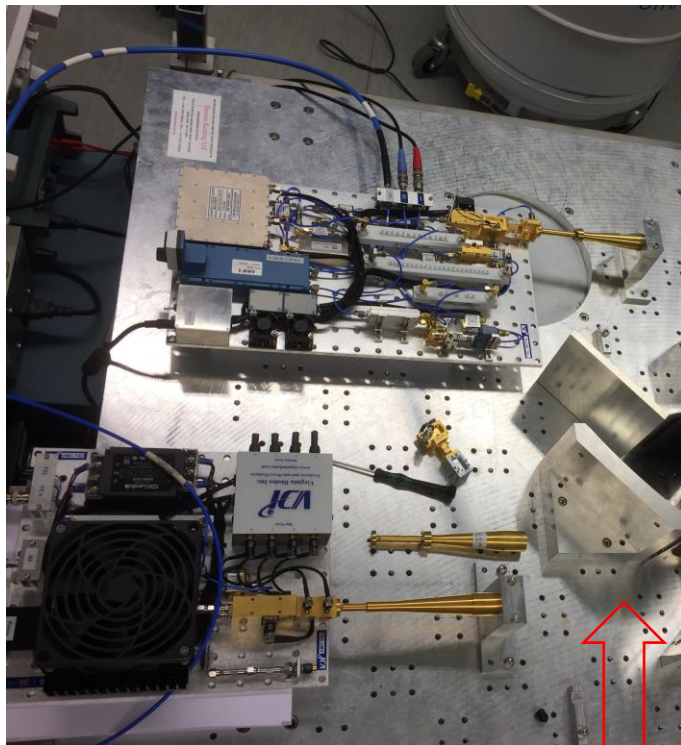
- 1) We have HFEP R signal at 0 T and $g=2$;
- 2) The signal comes from NiFe material;
- 3) The signal is independent from the disks shape



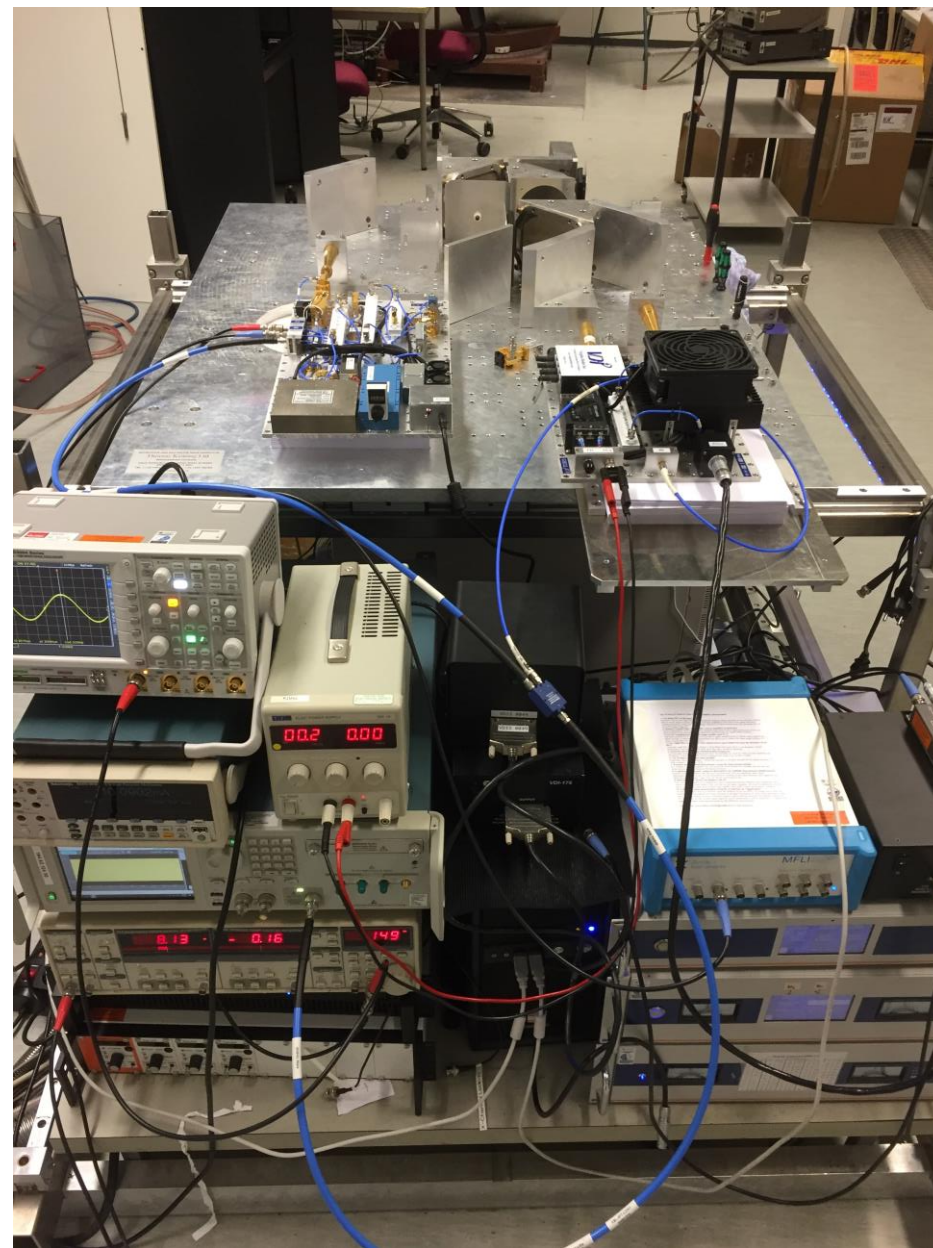
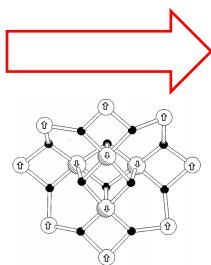
Surface coverage of NiFe: $\pi/16 \approx 20 \%$

COMING SOON

Test of the new Heterodyne Source/Detector at HFEP R quasi-optic setup

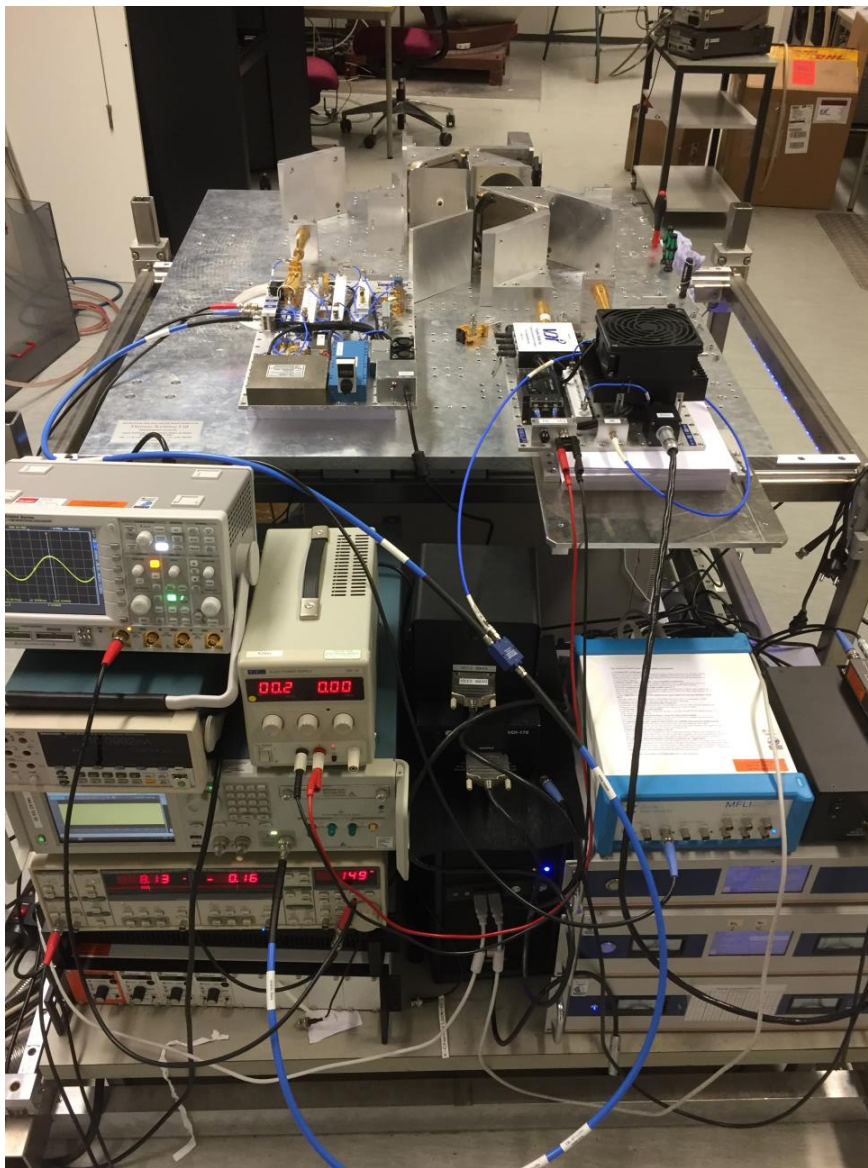
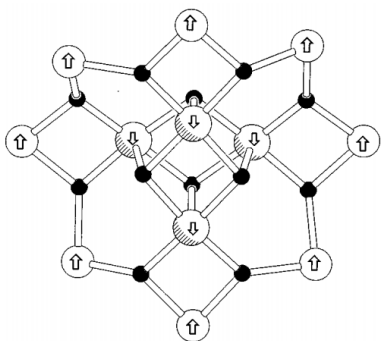


- 1) Tests of the source & detector without a quasi-optic setup;
- 2) Tests using the HFEP R quasi-optic setup and Mn12 as standard.

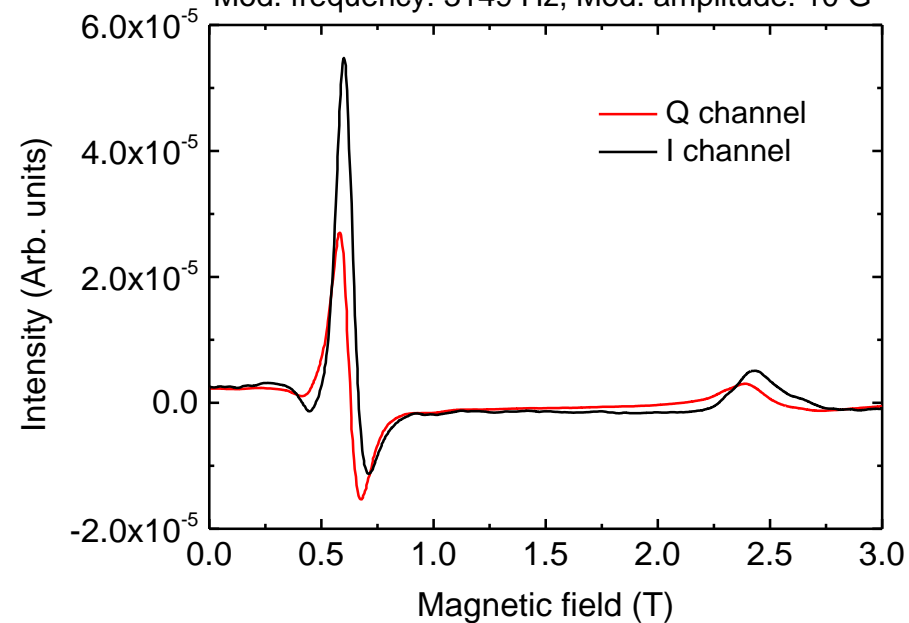


Test of the new Heterodyne Source/Detector at HFEP R quasi-optic setup

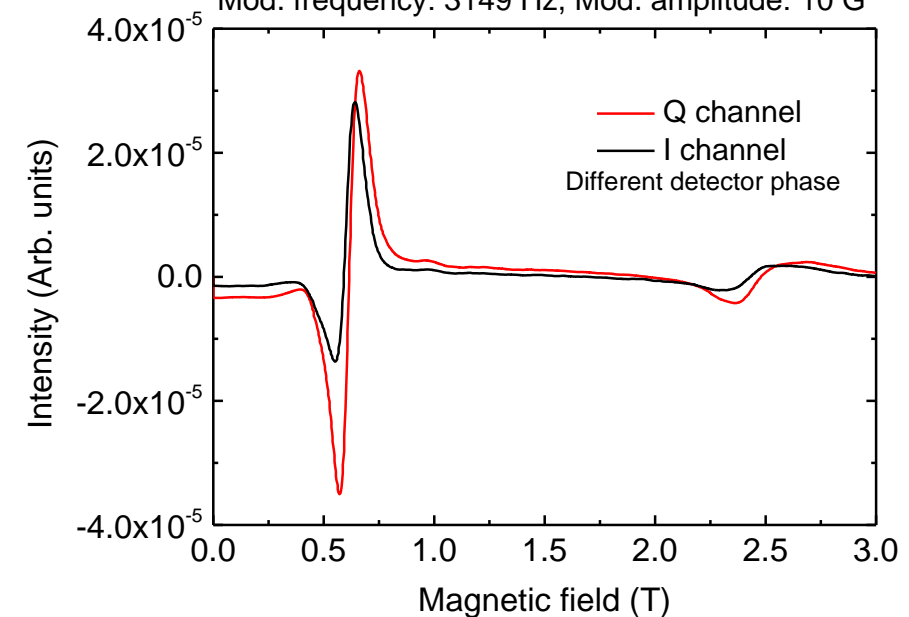
Mn12ac



Frequency: 320 GHz, Temperature 10 K
Mod. frequency: 3149 Hz, Mod. amplitude: 10 G



Frequency: 320 GHz, Temperature 10 K
Mod. frequency: 3149 Hz, Mod. amplitude: 10 G



Previously measured at HFEP R setup

