

COMPASS Lab

Critical Offset Magnetic
Particle Spectroscopy



versatile. fast. benchtop.

- variable frequency range
(DC to 50 kHz)
- variable magnetic field strengths
(AC&DC up to 25 mT)
- scalable bore size
(up to 30 mm)
- rapid measurement of 4D fingerprints
(multidimensional parameter sweep)
- real-time data processing
with Open Matlab interface

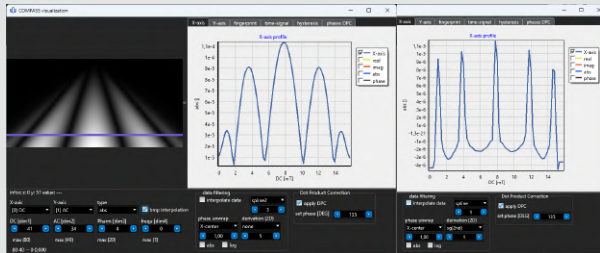


COMPASSLab provides a new insight into magnetic nanoparticle (MNP) dynamics without an image. It is the first available Critical Offset Magnetic Particle Spectrometer unveiling characteristic information about MNPs by measuring unique fingerprints.

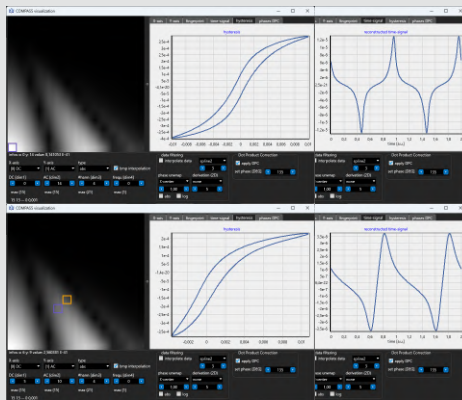


Applications

Characterization of magnetic nanoparticle systems.



Multidimensional spectroscopic analysis of magnetic nanoparticles with characteristic fingerprints.



Additional information about magnetic properties, e.g. hysteresis information.



Device specs

	COMPASS Lab ¹⁾
Bore size	5 mm (vertical) ²⁾
Drive field strength (AC)	adjustable up to 25 mT
Offset field strength (DC)	adjustable up to 25 mT
Frequency (AC)	adjustable between 1 kHz and 50 kHz
Current controlled	yes
Temperature stabilized	yes
Cooling	passive (compressed air)
Sequences	multi-dimensional [DC; AC; f; time]
Modular lightweight design	yes 1x drive (benchtop) 1x MPI unit (benchtop) 1x dedicated amp (benchtop)

1) The COMPASS Lab design allows adjustable parameters for specific questioning.

The indicated list describes the standard setup.

2) The bore size is adjustable for different sample-holders, e.g. 5 mm NMR glass tubes or 0.5 ml Eppi caps.

Bore sizes are available up to 30 mm.

