



EPR

ELEXSYS E780

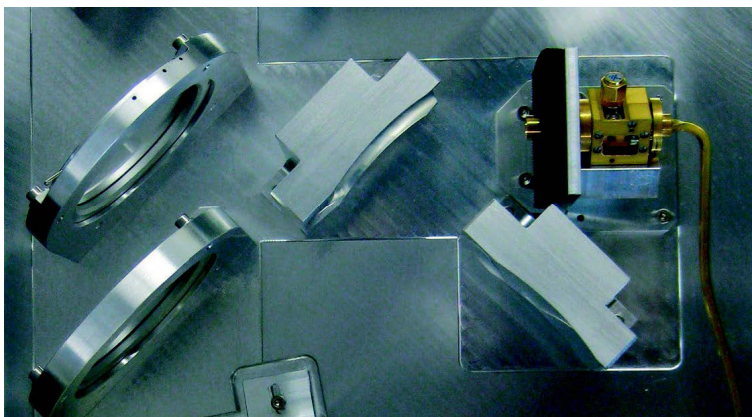
Bruker's Commercial Solution for 263 GHz mm-wave EPR Spectrometer

Innovation with Integrity

Bruker BioSpin has pioneered the world's first commercial 263 GHz mm-wave EPR spectrometer, ELEXSYS E780. The most recent configuration incorporates a unique actively shielded cryogen-free magnet that can be ramped up to 10 T and is combined with a dedicated probe for optimum sensitivity. Based on the well-proven Bruker ELEXSYS concept, it provides multiple turn-key operation modes including CW-, Pulse-EPR, ENDOR, and ELDOR, thus enabling research groups to routinely use very-high frequency EPR technology.

Features

- Enables mm-wave EPR at 263 GHz
- Quasi-optical front-end
- Actively shielded cryogen-free magnet with 10 T main coil and field ramping option
- Turn-key operation modes including CW-, Pulse-EPR, ENDOR, and ELDOR
- Variable sample temperatures from RT to liquid helium temperatures
- Safe and robust operation
- Runs routine software package Xepr
- Compatible with the Bruker SpinJet AWG



Quasi-optical front-end of ELEXSYS E780

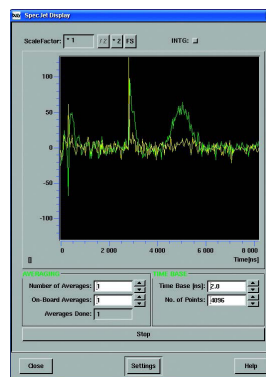
A Complete System

The ELEXSYS E780 is equipped with a quasi-optical front-end, featuring reflection and induction mode detection with safe and robust operation. The front-end is interfaced to a dedicated resonator allowing operation down to liquid helium temperatures. As with all other ELEXSYS systems, the E780 is driven by the proprietary Intermediate Frequency (IF) concept for optimum phase stability and pulse precision, and runs the Bruker software package, Xepr, for routine and assisted expert workflows.

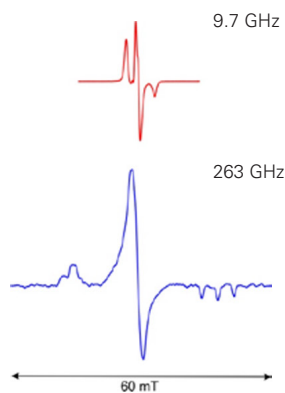
Very-High Field EPR Magnets

The ELEXSYS E780 is based on a unique cryogen-free actively shielded magnet with specifications that match the needs of very-high field EPR applications.

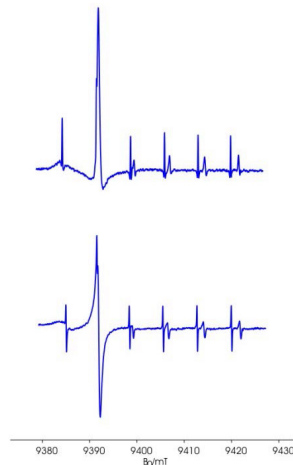
- Vertical magnetic field
- 89 mm bore
- Main field 0–10 T, ramp rate: 33 mT/min
- Homogeneity 10 ppm in 4 mm dsv
- High resolution sweep coil (Sweep coil rate: 600 G/min)
- Large sweep range of 0.3 T



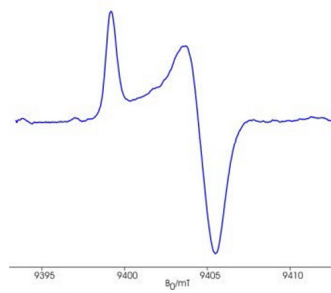
Spin echo of the E' center in quartz:
 - Single shot
 - Non-resonant probe
 - Pulse sequence: 0.7-2-0.7 μ s



TEMPOL in polystyrene, 2 mW microwave power, modulation 10 G @ 100 kHz, 5×10^{15} spins, 295 K.



Mn^{2+} in CaO, dispersion (top) and absorption (bottom) signal, sample volume 80 μ l, microwave power 0.2 mW, modulation 1 G @ 100 kHz, 295 K.



E' center in irradiated quartz, microwave power 0.2 mW, modulation 1 G @ 100 kHz, 295 K.

Bruker BioSpin is continually improving its products and reserves the right to change specifications without notice. 12/2024 Bruker BioSpin.

Bruker BioSpin
 info@bruker.com

bruker.com

ELEXSYS E780
 Website

