



SPINSCAN X

CW X BAND EPR/ESR SPECTROMETER






BENCH TOP INSTRUMENT WITH CAPABILITIES OF LARGE MACHINES FOR STUDYING MAGNETIC PROPERTIES OF MATERIALS



KEY FEATURES

- Fast and high sensitive analysis
- Compact, ergonomic design with a small footprint
- Does not require any complicated or time-consuming sample preparation
- Ready-to-plug-in and service friendly instrument
- PC-controlled and fully automated operation
- Comprehensive software package for EPR spectra acquisition and its analysis

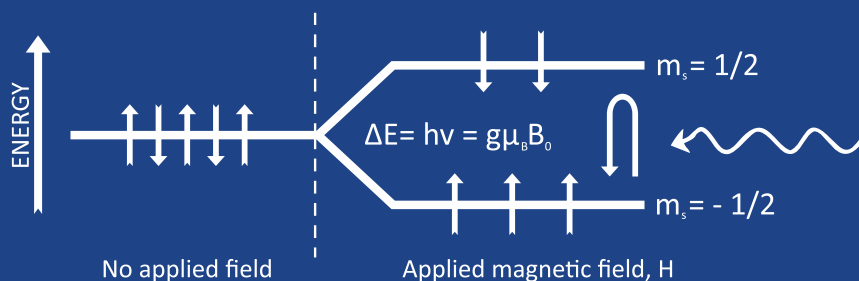
VERY USEFUL AND POWERFUL TECHNIQUE FOR

-  CHEMISTS, PHYSICISTS, BIOLOGISTS, MATERIAL SCIENTISTS
-  NANOTECH GROUPS
-  FREE RADICAL CHEMISTRY AND BIOTECHNOLOGY GROUPS
-  QUALITY FOOD CONTROL LABS, INDUSTRIAL IRRADIATION PLANTS AND DOSIMETRY LABS
-  TEACHERS, GRADUATE AND POSTGRADUATE STUDENTS






CW EPR/ESR SPECTROMETER SPINSCAN X

SPINSCAN X EPR SPECTROMETER IS UNIQUE BENCHTOP INSTRUMENT AVAILABLE FOR THE DETECTION OF THE FREE RADICALS/ PARAMAGNETIC CENTERS IN LIQUID OR SOLID PHASES

Electron Paramagnetic Resonance (EPR), or Electron Spin Resonance (ESR) spectroscopy utilizes microwave radiation to probe species with unpaired electrons, such as radicals, radical cations, and triplets in the presence of an externally applied magnetic field.



HIGHLIGHTS

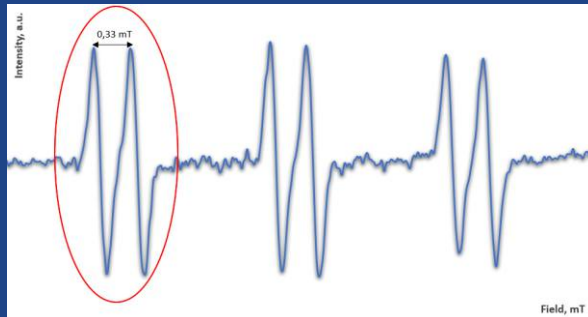
-  COMPACT DESIGN OF ELECTROMAGNET AND HIGH EFFICIENT MICROWAVE BRIDGE
-  HIGH STABILITY AND EXCELLENT HOMOGENETY OF MAGNETIC FIELD
-  EXTENDED FUNCTIONALITY OF SOFTWARE FOR DATA ACQUIZITION AND PROCESSING
-  MOST CAPABILITIES OF LARGE SPECTROMETERS ARE AVAILABLE
-  HIGH SENSITIVITY AND RESOLUTION AT SMALL FOOT PRINT



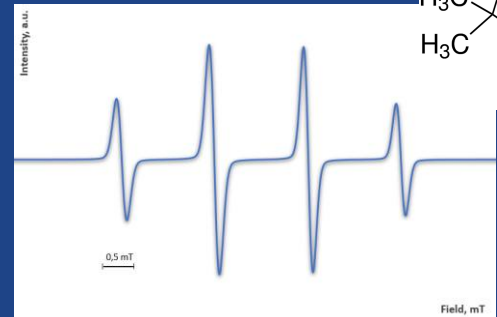
TODAY EPR TECHNIQUE CAN BE AVAILABLE FOR ANY LAB DOING ROUTINE RESEARCH OR FOR TEACHING DUE TO SPINSCAN'S COMPACT SIZE, WIDE CAPABILITIES AND REASONABLE PRICE

EPR TECHNIQUES

- Spin trapping
- Spin labeling
- Spin probe
- Matrix isolation
- Stopped flow
- Fast scan



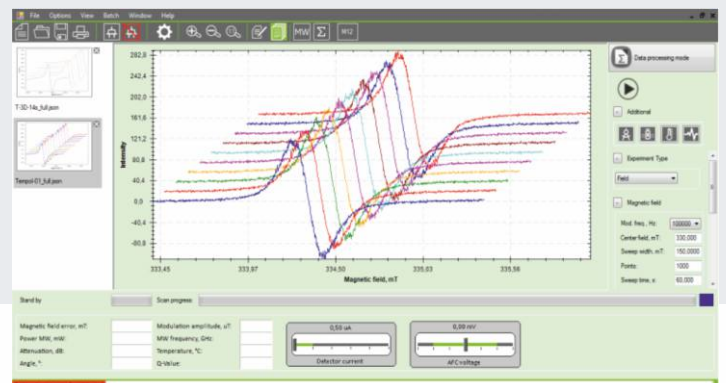
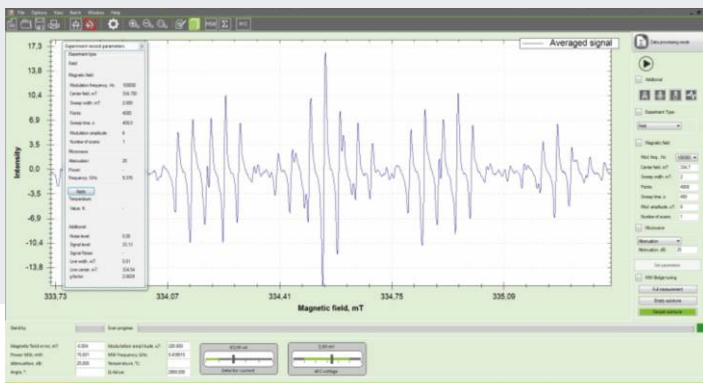
PBN Spin trap adducts



DMPO in buffer after UV irradiation

BENEFITS

- Cavity Q-factor and MW power measurements
- Phase shifting detection range 0°-360°
- First and second harmonics detection (in phase and out of phase)
- Built-in frequency counter: automatic g-factor measurement
- Broad dynamic range of signal channel - digitization up to 140 dB per one scan
- Both autotune or manual tune the microwave cavity and bridge
- SMA ports for external peripheral devices (external synchronization and analog signal inputs)
- e-SPINOZA software - the user-focused software kit for data acquisition and processing
- 2D, 3D - experiments (intensity vs time delay, temperature, MW power, ampl. modulation)
- Time-resolved EPR triggered with light, magnetic field, MW power pulses
- Interface via Ethernet: remote control and service
- Ergonomic design



"Although EPR spectroscopy is a fundamental measurement tool that will remain active indefinitely, and although there will continue to be inventions, discoveries and new applications, it is unlikely that the fundamental structure of the field will change. EPR will continue to be used for research in physics, chemistry and biology to examine samples in the liquid, solid and gas phases over a range of temperature and other conditions."

James S. Hyde

SOLUTIONS FOR RESEARCH:

- ELECTROCHEMISTRY - EC-EPR kit
- CRYSTAL ANISOTROPY STUDYING - 2-axis Goniometer
- PHOTOCHEMISTRY - Window and accessories for UV irradiation
- CONTINUOUS FLOW CHEMISTRY - Flow-through system
- REDOX KINETIC MEASUREMENTS - Stopped-flow system
- TEACHING - Educational kit
- FOOD&ALANINE DOSIMETRY - Alanine dosymetry package

SPECIFICATION

Sensitivity	5x10 ⁹ spins/0,1mT	MW bridge and cavity tuning	Automatic
Resolution	0,005 mT	Cavity	TE ₁₀₂
Maximum magnetic field	0,7 T	Q unloaded	5000
Sweep width	10 ⁻⁴ -0,65T	Amplitude resolution	24 bit
Operating Frequency	X-band	Dimensions	470 x 380 x 260 mm [18 x 15 x 11"]
Microwave power	200 mW	Weight	45 kg [100 lb]
Magnetic field modulation	10-250 kHz		

ACCESSORIES AVAILABLE FOR EPR SPECTROMETER SPINSCAN X

- SYSTEMS FOR TEMPERATURE CONTROL IN THE RANGE FROM -170°C TO +600°C
- ALL AVAILABLE GLASSWARE & ACCESSORIES FOR X-BAND EPR/ESR SPECTROSCOPY
- CUSTOMIZED HOLDERS FOR SPECIFIC SAMPLES TYPE (TUSSUE, SUBSTRATES ETC)
- 2- AXIS GONIOMETER



Automatic temperature control system



Flow through system



Automatic sample changer