

- CIQTEK EPR100 は、連続波ESR/パルスESR 双方の機能を備えた電子スピン共鳴(電子常磁性共鳴)分光計です。
- 特定のパルスシーケンスを用いて電子スピン量子状態を精密に制御・測定することにより、T1、T2、ESEEM、HYSCORE、などのパルスESR測定が可能になります。
- パルスEPR分光法は、より高いスペクトル分解能を提供し、電子と原子核間の超微細相互作用を明らかにし、より詳細な構造情報を得られます。材料科学、生体分子構造解析などの科学研究分野において、かけがえのない、極めて重要なESR測定法です。



✓ Features



High Spectral Resolution

Due to broadening effects, weak dipolar interactions, subtle fine coupling, and slight zero-field splitting information cannot be resolved in continuous-wave EPR spectra. Pulsed EPR provides higher spectral resolution, allowing for the **detection of weak interactions** that CW EPR struggles to distinguish.



High-Performance Pulsed Probe

The pulsed probe features an adjustable Q value, which balances a wider excitation bandwidth with a stronger control field. The detection dead time is reduced to the order of hundreds of nanoseconds.



Observe Interactions Selectively

By designing different pulse sequences, pulsed EPR can selectively observe electron-electron and electron-nuclear interactions, resulting in more easily analyzed EPR spectra.



Solid-State Power Amplifier

With a pulsed power output of up to 500 W, the system is paired with a high-performance pulsed EPR probe to deliver hard pulse excitation efficiently. Its long-term phase stability ensures more precise microwave pulse amplification during complicated pulse sequence experiments.



Comprehensive Functionality

In addition to relaxation measurements, ESEEM, and HYSCORE experiments, optional modules such as the ENDOR system, ELDOR/DEER system, time-resolved/transient EPR (TR-EPR) system, and AWG modules are also available.



Pulse Generation Technology

Pulse generator supports unlimited cyclic playback of pulse sequences, offering a microwave pulse time resolution of up to 50 ps, which enhances spectral resolution in pulsed mode. With the AWG module, microwave pulse generation becomes more convenient and flexible.

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Specifications	Value
Pulsed Signal Acquisition Modes	Transient acquisition, Single-point acquisition, and Integration testing
Pulsed Channels	12 channels (including +X, -X, +Y, -Y, 4 control channels, and 4 expandable channels), supporting phase cycling
Pulse Time Resolution	0.05 nsec.
Number of Pulses	20,000 per channel, with unlimited loop playback
Solid-State Power Amplifier Output Power	Up to 50 W

✓ Options:



Helium-free Cryogenic System
(4K to 300K)



Liquid Helium-free Continues-flow
Cryogenic System (4.4K to 300K)



Arbitrary Waveform Generator

ENDOR、DEER、TR-ESR、AWGモジュールなど、あらゆるパルスESR測定法に対応したオプションを幅広く取り揃えています。また、VTシステムと組み合わせることで、極低温における常磁性物質の検出が可能となります。

お気軽にご相談下さい。

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