

- 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的研究分野において、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.



### 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.



### 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.



### 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.



### 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.



### 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 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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