Pulse EPR console for spectroscopy and imaging

Connecting Spectrometers to People

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Visit **www.specman4EPR.com** for recent updates and developments. SpecMan4EPR is distributed by Scientific Software Services. Contact Reef Morse at **reefmorse@scientific-software.com** for information regarding purchase options and support.

Every pulse spectrometer has a console for pulse generation and detection of time domain signals. We present an affordable pulse EPR console built from general purpose components that works as a single unit. Major components of the console are:

- **SpecMan4EPR** – versatile control and acquisition software for pulse EPR experiments[1].
- **PulseBlasterESR-Pro 400 MHz,** SpinCore Technologies, Inc (**www.spincore.com**) – universal pulse programmer with 2.5 ns time resolution.
- **AP235 averager**, Agilent Technologies (**www.acqiris.com**) – 0.5 GS/s (2 ns resolution) for 2 channel acquisition with 133MB/s data transfer rate.
- National Instruments **DAQmx**, **VISA** and **GPIB** devices; **LPT**, **COM** ports; TCP-IP interfaced third-party devices.

Front end windows and dialogs of the **SpecMan4EPR**
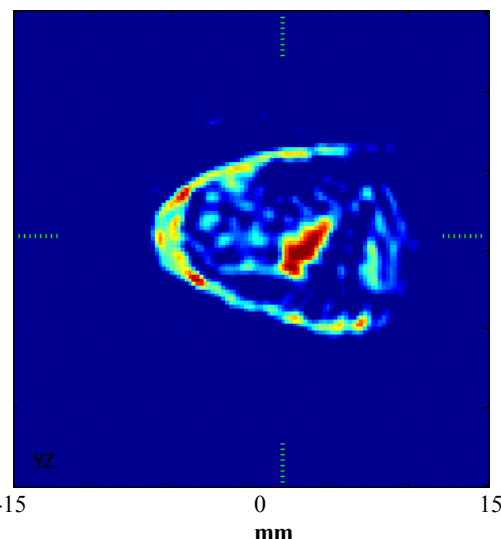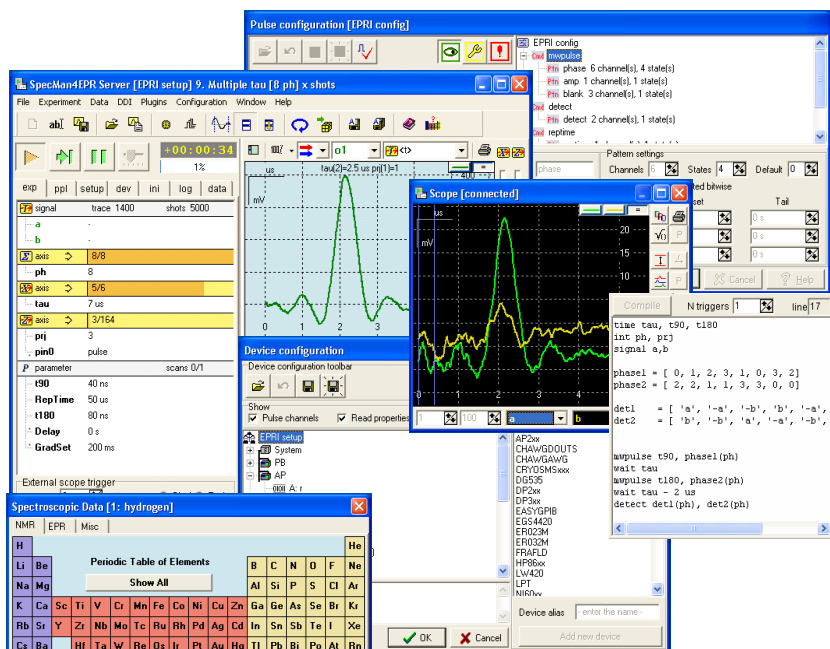
Slice of a 3D EPR image (300 µm resolution) of tumor bearing mouse leg obtained using SpecMan4EPR. 250 MHz pulse imager; multi-B ESE algorithm; 5 G/cm gradient; ~1200 projections; partially deuterated OX063 spin probe; 50 min acquisition time. Data are a courtesy of H.J.Halpern group, University of Chicago.

- **Complete pulse console inside one computer case. Single system for all kinds of spectrometers.**
- **Device-independent pulse programming language; acquisition of multiple time traces during single pulse sequence; minimal reprogramming time.**
- **Four-dimensional experiments; linear, logarithmic or table-based definition of ANY device or experiment parameter.**
- **Remote control over LAN or Internet; TCP-IP interface to LabView™ modules.**
- **In-scope Fourier transformation and baseline correction; time-trace baseline subtraction.**
- **NEW! Queue your experiments in Batch mode; sequential or time-based execution of the queue.**
- **NEW! 0.4 GB data arrays for high resolution imaging.**
- **NEW! User-defined information fields store important experimental parameters with your data.**

[1]Epel B. *et al.*, J. Magn. Reson., **164**, 78 (2003); Epel B. *et al.*, Concepts in Magnetic Resonance, **26B**, 36 (2005)