

Press Release

February 9, 2009

See the Phase Drift: New Visual Tool for the APS800 Phase Stabilization Unit

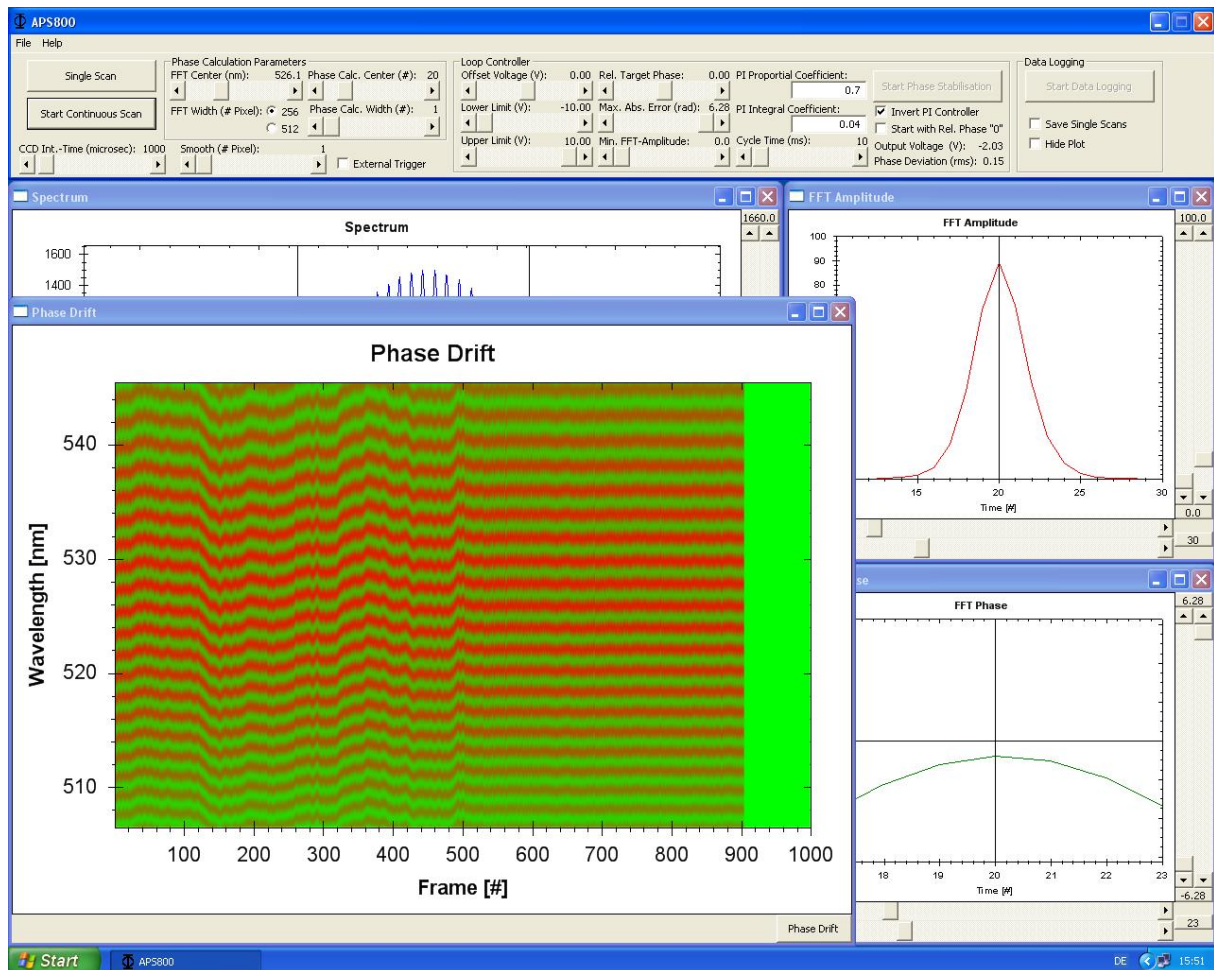
Menlo Systems announces the latest version of the APS800 control software. The APS800 phase stabilization unit is used to monitor and stabilize the phase relation of amplified few-cycle pulses. The newly released software now grants visual control over the phase stable pulses. The graphical user surface has been redesigned, allowing to monitor the phase drift of amplified laser pulses as a contour plot of the interference pattern generated by the f:2f-interferometer. The contour plot permits continuous judgment about the S/N ratio of the interferometer in particular and the phase stability of the whole laser system in general.

The USB-based spectrometer monitoring the interference pattern allows real time update rates of 200 scans per second at 1 ms CCD integration time. Since external triggering and integration times as short as 10 microseconds are available, the phase drift of amplified laser pulses can be monitored in single shot mode.

The APS800 system is delivered with a laptop computer. The low output noise of the USB-based D/A-converter (< 1 mV rms, RIN $< 10^{-4}$ rms [10 Hz - 250 kHz]) allows to set the phase drift feedback with a precision of better than 10 mrad.

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Menlo Systems, a leading developer and global supplier of instrumentation for high-precision metrology, was founded 2001 as spin-off of the Max-Planck-Institute of Quantum Optics. Known for the Nobel-Prize-winning Optical Frequency Comb technology, the Munich based company offers complete solutions based on ultrafast lasers and synchronization electronics for applications in industry and research. All our products are manufactured according to Lean Manufacturing standards. We think that Lean Production supports our strength in listening to the customer and manufacture in a fast and efficient way.



Screenshot of the APS800 2.0 software showing contour plot of phase drift with free running phase up to frame #500, stabilized phase from frame #500 up to frame #900