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Sole Source Justification for GRENOUILLE and FROG

Swamp Optics is the sole manufacturer of the award-winning single-shot and multi-shot FROGs and GRENOUILLEs, which measure ultrashort laser pulses more completely and more easily than any devices in history.

An alternative (but obsolete) device used previously by researchers to characterize ultrashort laser pulses is an autocorrelator (invented in 1968). However, an autocorrelator only roughly indicates the pulse width; every pulse (whether simple or complex) has a similar, smooth and structureless autocorrelation trace. One must guess a particular pulse shape (usually without justification) in order to estimate a pulse length.

Swamp Optics' FROGs and GRENOUILLEs, on the other hand, measure the full pulse intensity and phase vs. time and the spectrum and spectral phase vs. wavelength. They do so for both simple and complex ultrashort laser pulses and with great accuracy. They are also the only devices that can operate single-shot and not average over many pulses.

Swamp Optics' FROGs and GRENOUILLEs are the only pulse-measurement devices that also measure the pulse's spatial profile (the intensity vs. both transverse spatial coordinates). They are also the only devices available that quantitatively and accurately measure the two most important spatio-temporal distortions: spatial chirp and pulse-front tilt. These distortions are often quite severe and cause significant degradation in all applications.

Finally, Swamp Optics' FROGs and GRENOUILLEs are the only pulse-measurement devices that require no alignment and have a simple and foolproof procedure for aligning one's input beam into them, so that they can be moved from one setup to another in minutes. Aligning other devices—and one's beam into them—can waste many hours of time.

Invented, developed, manufactured, and distributed by Swamp Optics!
All products by Swamp Optics are warranted to be defect-free for one year.