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Sole Source Justification for GRENOUILLE and FROG

Swamp Optics is the sole manufacturer of the award-winning GRENOUILLE, which measures ultrashort laser pulses more completely and more easily than any device 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.

GRENOUILLE, on the other hand, measures the full pulse intensity and phase vs. time and the spectrum and spectral phase vs. wavelength. It does so for both simple and complex ultrashort laser pulses and with great accuracy.

Swamp Optics' 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.

GRENOUILLE is also the only pulse-measurement device that requires no alignment and has a simple and foolproof procedure for aligning the input beam into it, so that it 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.