KMLABS inc.™
LEADING IN ULTRAFAST

Femtosecond Oscillators
Femtosecond Amplifiers
Ultrafast Instruments
High Harmonic Generation

AppNote1: Top questions to ask an ultrafast amplifier vendor

(or, "How to choose an ultrafast amplifier")

1. Does your amplifier allow me to vary repetition rate while trading off pulse energy, allowing me to make best use of the power output?

    →KMLabs response: YES

2. Am I paying for pulse energy that I don't need, at a fixed repetition rate, when *higher* repetition rate would better optimize my experiment or process?

    →KMLabs response: Our amplifiers allow maximum flexibility due to the ability to adjust the repetition rate over a wide range.

3. How is your output pulse characterized? FROG? Auto-Correlation? SPIDER? Other?

    →KMLabs response: All our systems are characterized using SHG-FROG, which we believe offers the most accurate approach. FROG is superior to other methods when characterizing pulse width and pulse background/pedestal issues. Spider characterization is optionally available.

4. Does your amplifier *stability* depend critically on the pump power level or changes in pump power?

    →KMLabs response: NO. Due to our patented cryogenic cooling technology, changes in pump power are easily accommodated by the system, and do not cause critical thermal lensing issues or beam quality issues.

5. Can your system accommodate pumps from other vendors? Especially pumps with variable rep rates?

    →KMLabs response: YES. We use a variety of pump laser providers, and can optimize the pump(s) for your particular repetition rate. KMLabs patented cryogenic cooling technology enables a much wider repetition rate range compared to other amplifier vendors.

6. Can your amplifier system be upgraded to higher power / performance in the future?

    →KMLabs response: In many cases, a KMLabs amplifier can be built to stay within a customer's near-term budget and performance goals, while allowing a future upgrade to higher performance levels. Often this requires only additional pump power or pump sources.

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