



Editorial Contact: Joe Henrich4087644000

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OPA Delivers Short Pulsewidth and Wide Tuning from Yb Amplifiers

Santa Clara, Calif., February 12, 2016 – The Opera-F is a new optical parametric amplifier (OPA) from Coherent, Inc. (Santa Clara, CA) that delivers wide tuning, high conversion efficiency, and sub-100 fs pulse duration when pumped by the company’s Monaco high performance ytterbium ultrafast amplifier. The signal output of the Opera-F is tunable from 650 nm to 900 nm, and the idler is tunable from 1200 nm to 2500 nm. When pumped by the Monaco at 40 Watts, the Opera-F provides the industry’s highest power (up to 3 Watts) and highest pulse energy (up to 3 μ J) as well as an industry leading 1 MHz maximum pulse repetition rate. These characteristics make it the optimum tunable source for scientific experiments needing high data acquisition rates or a high level of signal averaging.

Ytterbium-based amplifiers feature several advantages over Titanium:Sapphire alternatives, including direct diode pumping and simplified architectures. However, ytterbium amplifiers usually have longer pulsewidths. This difference has been eliminated with the Opera-F, a single-box accessory which includes a non-collinear stage to generate pulsewidths as short as 50 fs, followed by a collinear stage which delivers very broad wavelength tuning. The output wavelength is tuned through software, with no physical adjustment required.

The high power and high repetition rate of the Opera-F are ideal for advanced multiphoton microscopy studies in neuroscience; the high power is a particular advantage for multi-beam imaging setups using a spatial light modulator (SLM). It is equally well-suited to liquid phase pump-probe experiments including solvation mechanics and studies of advanced solid state materials for light harvesting, displays and semiconductor industry.

Founded in 1966, Coherent, Inc. is one of the world’s leading providers of lasers and laser-based technology for scientific, commercial and industrial customers. Our common stock is listed on the Nasdaq Global Select Market and is part of the Russell 2000 and Standard & Poor’s MidCap 400 Index. For more information about Coherent, visit the company’s website at <http://www.coherent.com/> for product and financial updates.

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