

## 5-12 $\mu$ m 光学参量振荡器

“Spark FIR”是世界第一台可商用 5-12 $\mu$ m 波段超宽带输出超快光参量振荡器，利用准相位匹配光栅设计可以得到 5-12 $\mu$ m 波长输出范围，其中 5-7 $\mu$ m 波段输出功率可达 80mW，12 $\mu$ m 波段功率可到 10mW。该波段的设计最大的原因是 5-12 $\mu$ m 波属于分子指纹区波段，其独特的吸收模式使得样品分子可以被更好地进行探测；较高的输出能量使其可以在该波段提供较高信噪比信号采集。同时“Spark FIR”也是红外光谱分析化学气体探测应用的理想光源。



**主要应用：**  
指纹区光谱  
红外光谱  
气体探测  
化学平衡传感  
材料表征与计量  
高光谱成像  
大气研究  
燃烧诊断  
光声光谱学

**主要特点：**  
世界第一台商用指纹区准连续 OPO  
输出波长：5-12  $\mu$ m  
可选择泵浦光输出  
网络控制

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指标参数:

		options
Output wavelength	5-12 $\mu\text{m}$ output available.	Individual QPM gratings provide up to 1 $\mu\text{m}$ coverage
Output power	Up to 75 mW at 5-7 $\mu\text{m}$ and up to 10mW at 12 $\mu\text{m}$	Optimised systems for specific wavelengths available on request.
OPO Wavelength tuning	Wavelength tuning is available through multiple QPM gratings	Please contact Chromacity for tuning options.
Pump source	Integrated Spark 1040 laser oscillator	Further details of pump source on request
Pump wavelength	1040 nm	
Repetition frequency	100 MHz Monitor photodiode	
Control interface	Ethernet, and web page Serial port (for control via LabView/MatLab)	Custom interface available
Dimensions	970 x 245 x 82 mm (laser head) 483 x 285 x 86 mm (control unit)	
Weight	18 kg (laser head) 2 kg (control unit)	
Electrical	Voltage 110 – 240 V AC Frequency 50 – 60 Hz Power 80W	
Cooling	Air cooled	

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