

Over Drive Plus SLM

Over Drive Plus SLM(超高速液晶空间光调制器)是美国 Meadowlark Optics 公司最新推出的一款具有超高速液晶空间光调制器。这款产品相比 HSP 系列高速空间光调制器具有更快的响应速度。该产品采用瞬态向列液晶效应技术

(Transient Nematic Effects)、相位环绕技术 (Phase Wrapping)、局部校准技术 (Regional LUTs), 实现了超高速的液晶响应速度 (1~4ms)。这三项技术均已申请专利保护。这款产品的推出显示了 MLO-BNS 团队勇于不断突破极限的精神与理念。

我们可以提供标准型、高效型等多种型号的 **Over Drive Plus** 空间光调制器, 用户可根据应用需要进行选择。

典型应用

- 光谱分析;
- 飞秒脉冲整形;
- 超分辨显微成像 (STED、SIM、PALM、STORM)
- 波前调制
- 光学数据存储;
- 超快脉冲整形;
- 高分辨率自适应光学

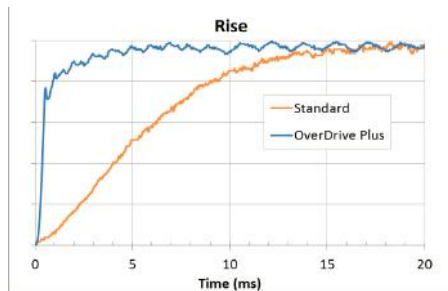


Figure 2 – Standard SLM response time.

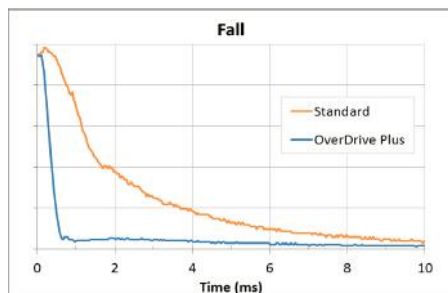


Figure 3 – Response time for SLM with ODP enabled.

OverDrive Plus Specifications for a 512 x 512 pixel SLM at 1064	
Design Wavelength	$\lambda = 1064 \text{ nm}$
Array Size	7.68 x 7.68 mm
Zero-Order Diffraction Efficiency (Standard)	61.5% (Maximum)
External Window	BBAR coated for $R_{avg} < 1.25\%$
Fill Factor	0.834
Format	512 x 512 (262,144 active pixels)
Phase Stroke (Double Pass)	2π
Pixel Pitch	15 x 15 μm
Phase Ripple	As low as 0.1%, based on SLM configuration
Reflective Wavefront Distortion (Calibrated)	$\lambda/10 @ 1064 \text{ nm}$
Liquid Crystal Response Time, 10-90% (Standard)	$\leq 66.7 \text{ ms}$
Liquid Crystal Response Time, 10-90% (High Speed)	$\leq 10 \text{ ms}$
Liquid Crystal Response Time, 10-90% (OverDrive Plus)	$\leq 1 - 4 \text{ ms}$

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