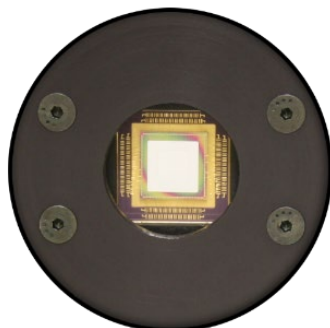


# Low Actuator Count Deformable Mirrors

## Low Actuator Count DMs

Low-actuator count DM systems are economic and versatile solutions for advanced wavefront control, coming in the

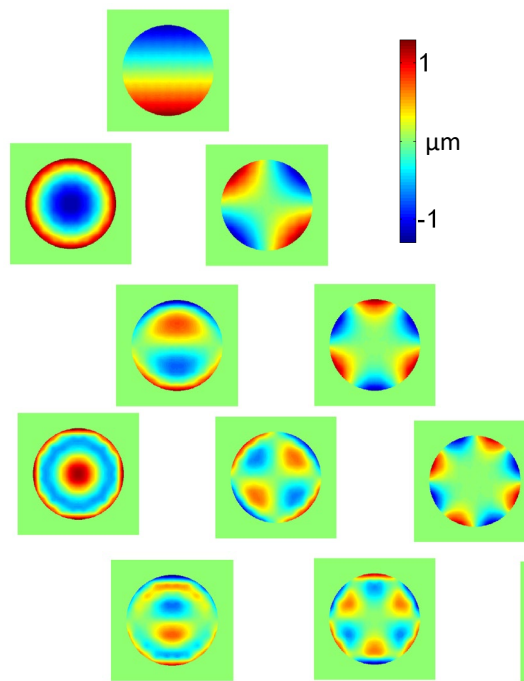


With up to 140 precisely controlled elements and low inter-actuator coupling, the *Multi-DM* system is ideal for a broad range of applications including microscopy, astronomy, retinal imaging, and laser beam shaping. This DM is available in both continuous and segmented surfaces for adaptive optics or spatial light modulator applications.

The *Multi-DM* is capable of up to 5.5  $\mu\text{m}$  stroke, 2 kHz frame rate, have sub-nm step size, and no hysteresis.

High speed electronic upgrades are available for the Multi-DM systems, in the form of the X-Driver.

## Demonstrated High Order Aberration Correction



Measured Zernikes: >130 actuators with low interactuator coupling create complex Zernike modes

### DM Properties

<b>Mirror Coating:</b>	Aluminum, Gold or Protected Silver
<b>Window:</b>	AR coatings available
<b>Hysteresis:</b>	None
<b>Step size:</b>	Sub-nm (average)
<b>Surface Type:</b>	Continuous (DM), Segmented (SLM)
<b>Fill Factor:</b>	>99%
<b>Surface Figure:</b>	<30nm RMS

### Driver Specifications

<b>Dimensions:</b>	9" x 7" x 2.5"
<b>Interface:</b>	USB 2.0
<b>Input Voltage:</b>	100-240V AC
<b>Resolution:</b>	14 bit
<b>Frame Rate:</b>	8 kHz*



Specifications*	Total Actuator Count	Actuator Count Across Aperture	Stroke ( $\mu\text{m}$ )	Aperture (mm)	Pitch ( $\mu\text{m}$ )	Mechanical Response (10% - 90%)	Approximate Interactuator Coupling	Price**
<b>Multi-C-1.5</b>	137	13	1.5	3.6	300	<40 $\mu\text{s}$	15%	\$13,000
<b>Multi-3.5</b>	140	12	3.5	4.4	400	<75 $\mu\text{s}$	13%	\$20,000
<b>Multi-3.5L</b>	140	12	3.5	4.9	450	<75 $\mu\text{s}$	13%	\$23,000
<b>Multi-5.5</b>	140	12	5.5	4.95	450	<100 $\mu\text{s}$	22%	Upon Request
<b>Multi-SLM†</b>	140	12	1.5	3.6	300	<35 $\mu\text{s}$	0%	Upon Request

\*High speed driver options are available.

†Segmented surface mirror. All other configurations have continuous surfaces.

\*\*Includes mirror, driver and operational software