High-performance Reflective Optical Chopper

Boston Micromachines Corporation (BMC), a provider of MEMS-based deformable mirror (DM) products and adaptive optics systems, introduced this week at Photonics West the Reflective Optical Chopper (ROC). Designed to outperform the traditional optical chopper, the ROC offers greater frequency range and a faster chopping speed without the need to alter the beam size.

Unlike traditional solutions which require the use of separate chopper wheels at different ranges of frequencies, the ROC can function continuously from sub—Hertz speeds up to 100 kHz. Even more, the versatile optical chopper does not require reduction of the size of the beam at higher speeds. As an added feature, scientists can chop the beam with an arbitrary pattern simply by providing an input signal.

“Signal-to-noise ratio (SNR) improvement is important to many laser science applications,” said Paul Bierden, president and CEO of Boston Micromachines. “Our high speed, large aperture ROC meets the demands of improving SNR.”

The ROC works as a reflective diffraction grating, chopping the beam by varying between an unpowered flat mirror-state and a powered diffractive state. With a module that easily fits into a standard 1” optical mount, the ROC is operable within minutes of unpacking. The ROC can be operated either in standard mode with the on-board signal generator, or in custom mode using a user-generated 5-volt TTL signal.

Source: Boston Micromachines Corporation [1]

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