
MEMS Deformable Mirrors for High Contrast Imaging

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Abstract

Deformable mirrors are critical components in high-contrast imaging systems for ground based and space based telescopes. Boston Micromachines Corporation's deformable mirrors use a unique microelectromechanical systems (MEMS) technology, which allows for the high spatial resolution and precise control over the shape of the mirror surface needed for this application.

In recent years, BMC has made significant advances in their deformable mirror technology, including improved surface finish, higher speed, and increased actuator count. These improvements will enable new applications in high-contrast imaging. BMC deformable mirrors have already been used in a variety of telescopes around the world where groundbreaking discoveries in astronomy have been achieved, including the direct imaging of exoplanets and the characterization of their atmospheres.

This talk will provide updates on the latest developments in BMC's deformable mirror technology and highlight the latest applications in high-contrast imaging. The talk will also discuss ongoing efforts to improve the performance of deformable mirrors for future telescopes.

Keywords: Deformable Mirror, Extreme AO, High contrast Imaging

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