

Switching-Based Imaging System for Correction of GRIN lenses and higher imaging accuracy of Deep Brain Regions

Track Code: 2021-CUI-69472

Categories:

(No categories found)

Keywords:

(No keywords found)

Researchers at Purdue University have developed a small module that can be added to microscope lenses to image deep brain regions with higher resolution, higher signal-to-noise ratio, and large field of view image for deep brain. Gradient Index (GRIN) lenses, commonly used for imaging deep brain regions, suffer from position-dependent aberration, which caused defocusing and limits the imaging field of view (FOV). The Purdue invention proposed to solve this problem by providing a system of spatially varying aberration correction for GRIN lenses. The compact add-on unit proposed by the Purdue inventors uses a 2-axis galvo system to actively control the tilting direction and substitute the commonly used rigid prism array. The proposed unit provides a higher focus and quality for 3D imaging of deep brain tissues.

Technology Validation:

Advantages:

- High resolution
- High signal-to-noise ratio
- Large field of view

Applications:

- Imaging deep brain regions

People:

- Cui, Meng (Project leader)

Intellectual Property:

Application Date: October 27, 2021

Type: Provisional-Gov. Funding

Country of Filing: United States

Patent Number: (None)

Issue Date: (None)

Contact OTC:

Purdue Office of Technology Commercialization
The Convergence Center
101 Foundry Drive, Suite 2500
West Lafayette, IN 47906

Phone: (765) 588-3475

Fax: (765) 463-3486

Email: otcip@prf.org