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A Method for Latency Reduction in Optical Phase Correction

A novel algorithm significantly reduces latency and precisely predicts wave-front phase errors, delivering higher-precision, sharper digital images for applications like astronomical studies and holographic displays.

Researchers at Purdue University have developed a new method to reduce latency in algorithms that estimate wave-front phase error. These algorithms can be used to characterize incoming and outgoing electromagnetic wavefronts to create sharp digital images. In optical light focusing applications such as astrological studies and holography, sources of blurry images must be identified and corrected. Phase errors contribute to image quality and can occur from delays in computations and measurements but are potentially avoidable. The algorithms fine-tuned by Purdue researchers can eliminate latency and predict future phase errors with higher precision and improved reliability over traditional multiplane image-sharpening algorithms.

Advantages:

-Accurate

-Produces Sharp Images

-Enables Corrections to Wave-Front Energy

Potential Applications:

-Astrological Studies

-Holographic Displays

-Military and Defense

TRL: 4

Intellectual Property:

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Category
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Aerospace & Defense/Defense Electronics & Surveillance Technologies

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