TECHNOLOGY

# Multi-Beam Optical Phased Array Light Detection and Ranging System

## OVERVIEW

Thermally modulated Nanophotonic Phased Arrays (NPAs) can be used as phase-only holographic displays. Compared to the holo- graphic displays based on Liquid Crystal on Silicon Spatial Light Modulators (LCoS SLMs), NPAs have the advantage of integrated light source and high refresh rate. However, the formation of the desired wavefront requires accurate modulation of the phase which is distorted by the thermal proximity effect. This problem has been largely overlooked and existing approaches to similar problems are either slow or do not provide a good result in the setting of NPAs.

Researchers at the University of Maryland have created two methods to address the thermal proximity effect issue faced by NPA holographic displays. The proximal proximity effect correction is the obvious choice as it is faster and more effective in correcting proximity effect at all proximity effect levels. The iterative proximity effect correction is effective at low proximity effect levels and the correction effectiveness can be improved with TDM or paddingtechniques. The IPEC method is also readily applicable to multi-plane scenes.

This technology is available for a research-use license. Please contact umventuresstore@umd.edu for more information.

## CONTACT INFO

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# Additional Information

## INSTITUTION

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