







## Integrated Optical Phased Arrays for LiDAR C. V. Poulton, M. J. Byrd, P. Russo, E. Timurdogan, M. Khandaker, M. Whitson, E. Hosseini, B. Moss, Z. Su,

## New Materials and Devices: Modular Optical Aperture Building Blocks (MOABB)







- The high integration of silicon photonics allows for co-packaging with an integrated III/V laser
- Above shows an optical phased array chip copackaged with a III/V sampled grating distributed Bragg reflector (SG-DBR) laser
- Optical coupling between the two chips is realized with two ball lenses that performs mode-matching between the two couplers

This research was developed with funding from the Defense Advanced Research Projects Agency (DARPA).

The views, opinions and/or findings expressed are those of the author and should not be interpreted as representing the official views or policies of the Department of Defense or the U.S. Government.

Unless otherwise attributed, all images, charts, and diagrams were generated by Analog Photonics. AP CEO: Michael Watts – mwatts@analogphotonics.com | Author: Christopher V. Poulton – cpoulton@analogphotonics.com











Distribution Statement A – Approved for Public Release, Distribution Unlimited



THE ELECTRONICS RESURGENCE INITIATIVE