



PowerPhotonic

Enhancing Beam Performance

Low SWAP Optics for High Power Defence Applications

Scott Barrie

Sales Manager EMEA





Who we are



Patented laser smoothing process



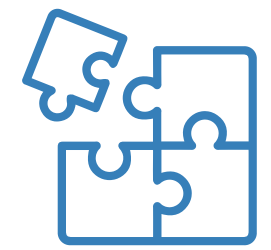
50 staff across UK and US



Secured contracts over 4M for Defense projects



Engineering and Design in house



Manufacturing sites in UK and US

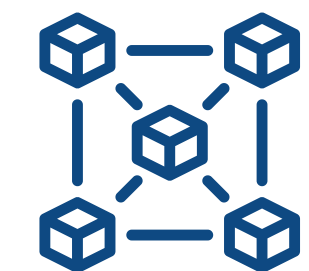
Markets & applications



Defence
Coherent Beam Combining



Material Processing
Laser welding & cutting

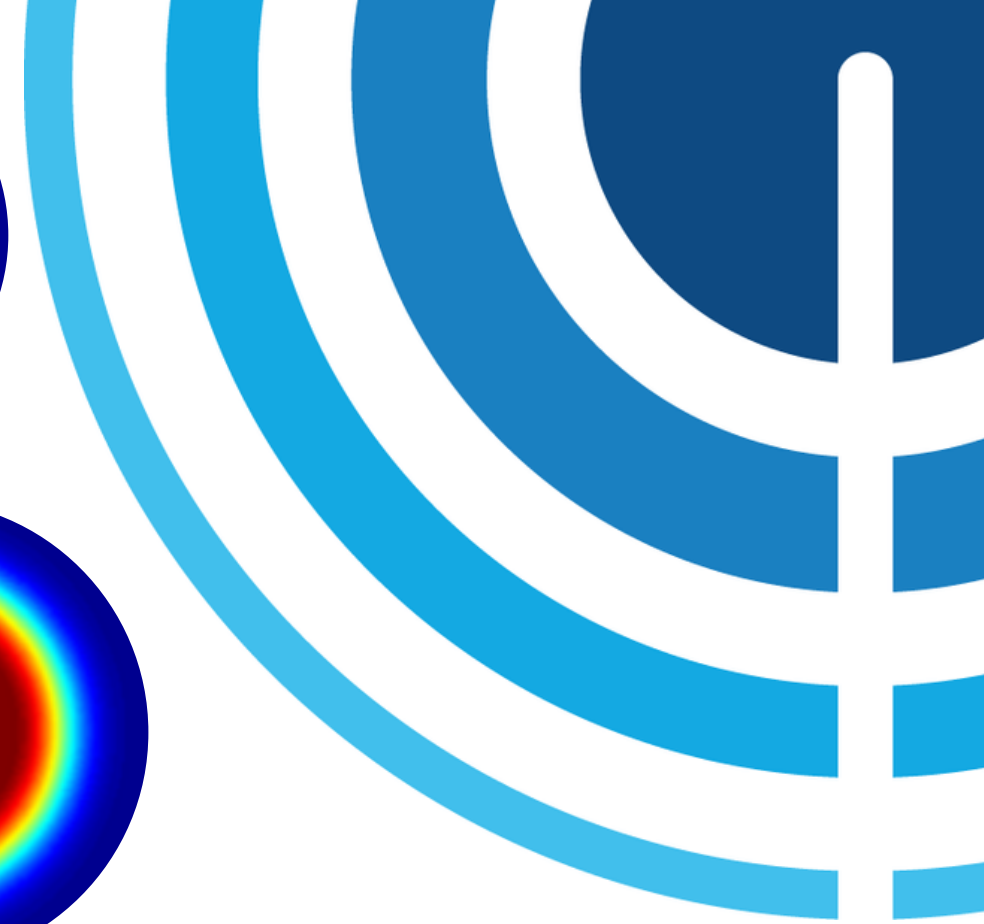
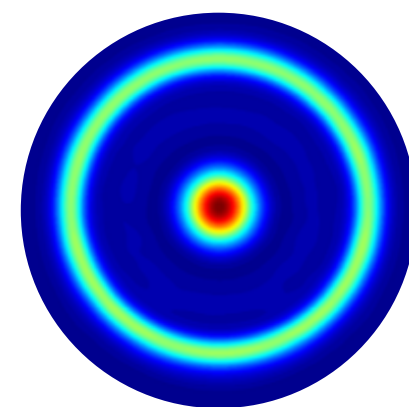
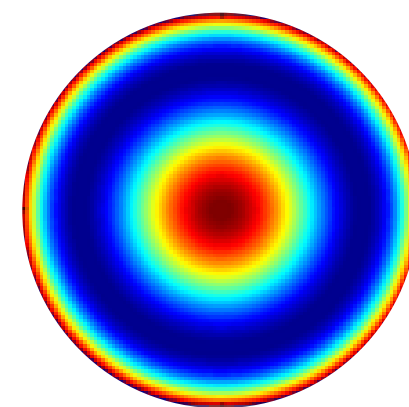
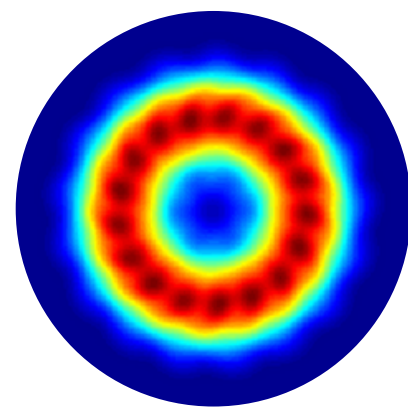


Datacomms
Aberration Correction

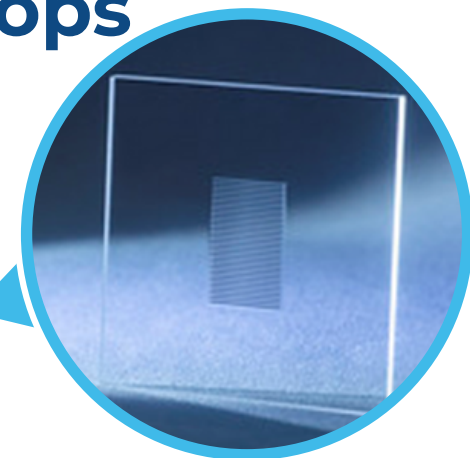
Rings, tridents, axicons



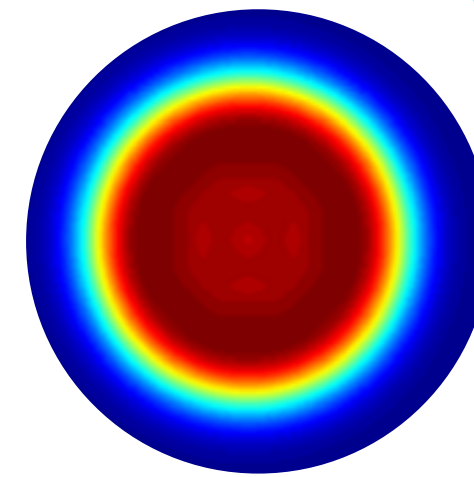
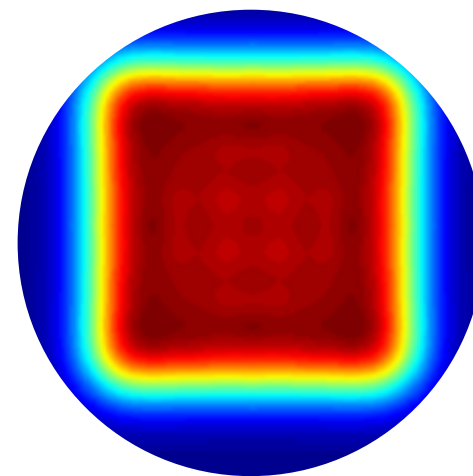
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Flat tops



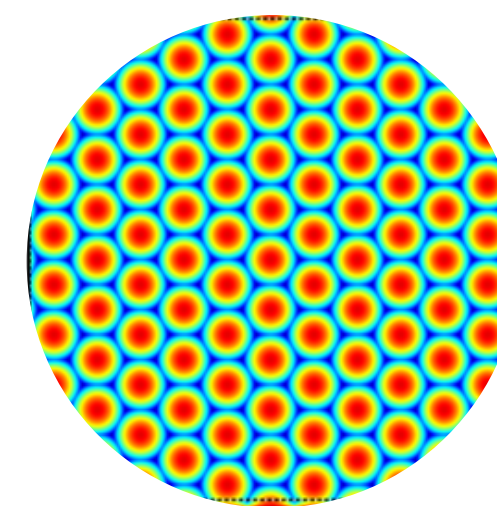
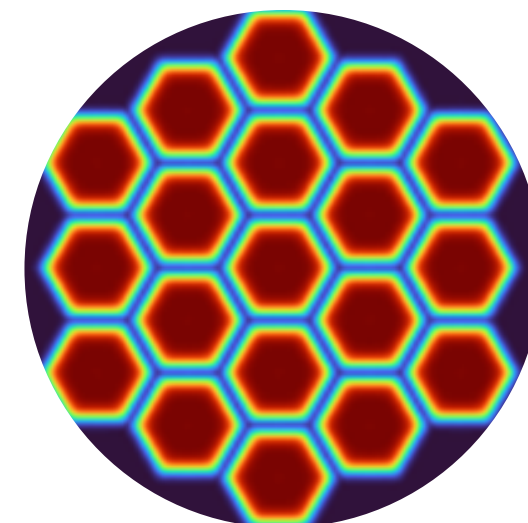
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MLA's

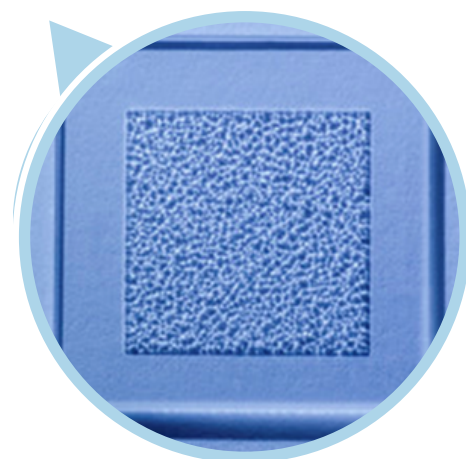


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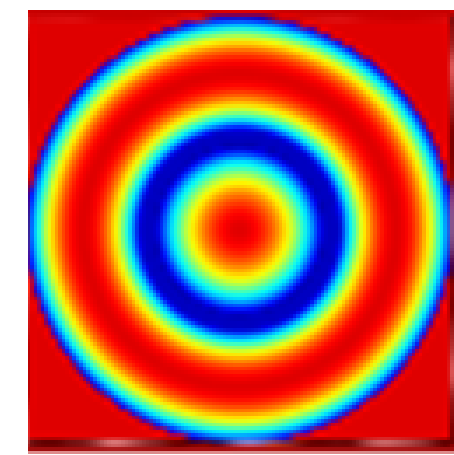
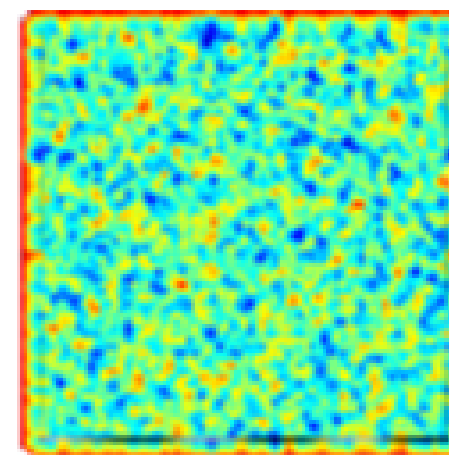
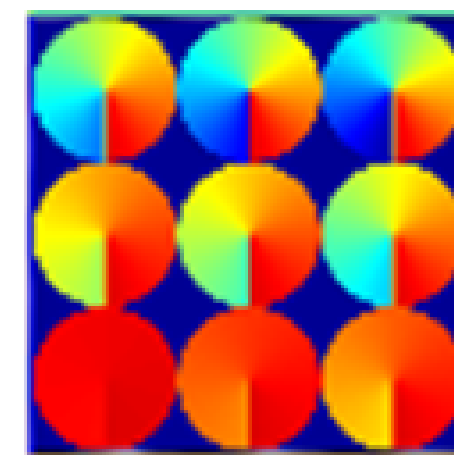


We make ultra smooth, freeform optics

Custom, freeform outputs

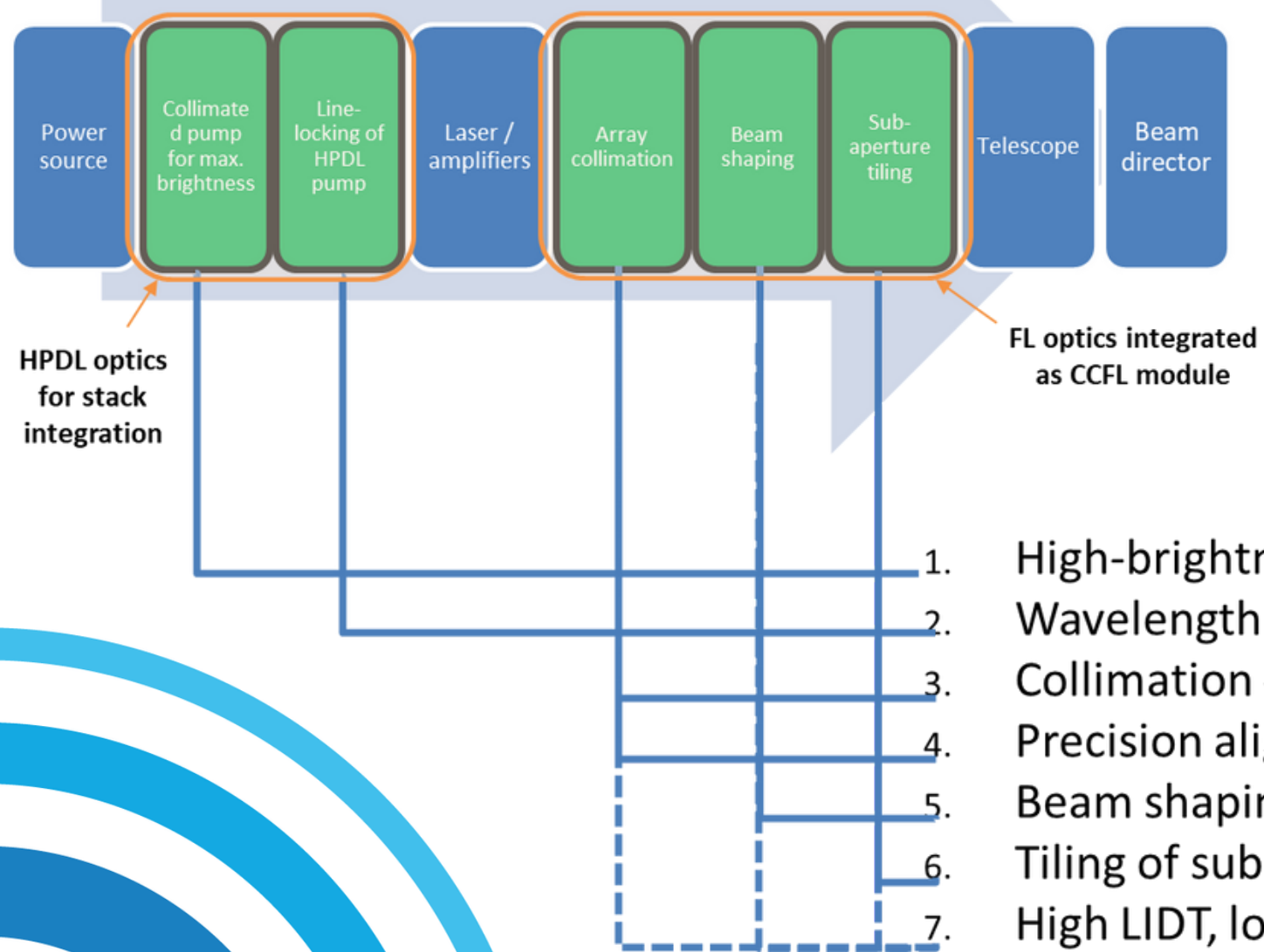


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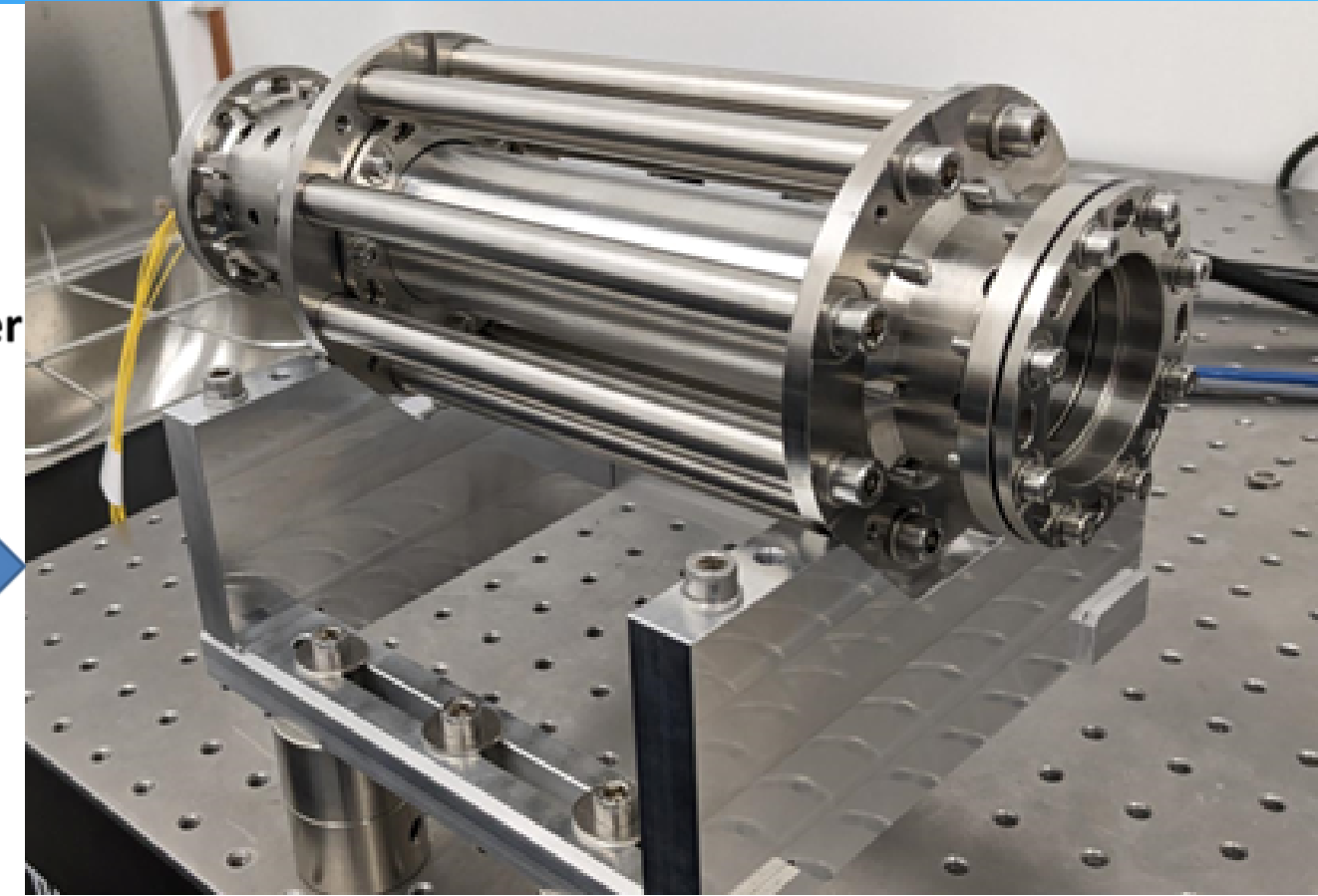
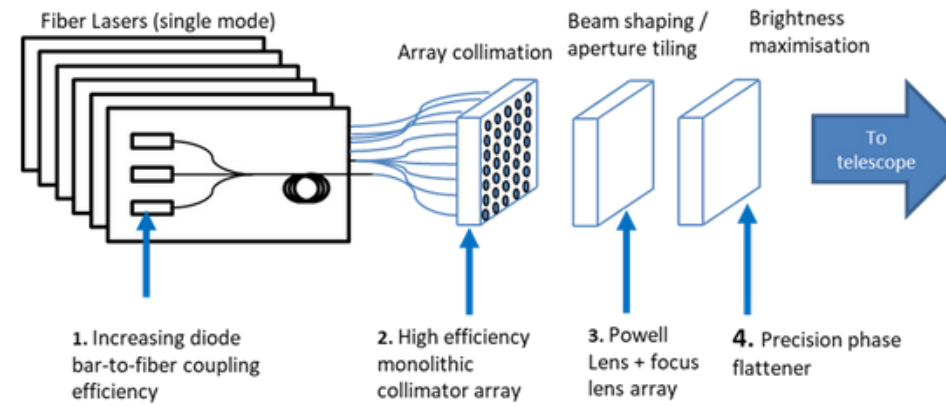


Coherent Beam Combiner Module

Elements of generic LDE effector

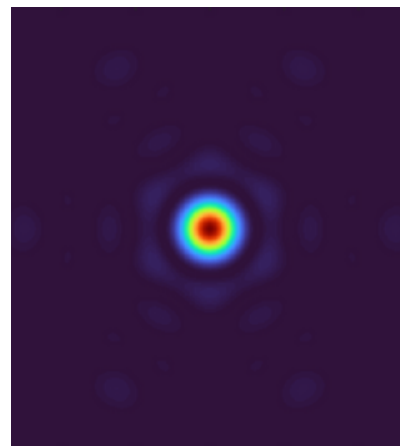
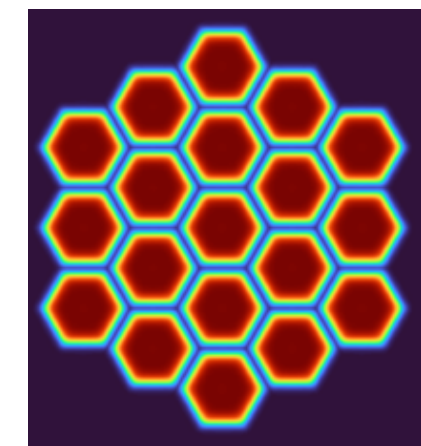
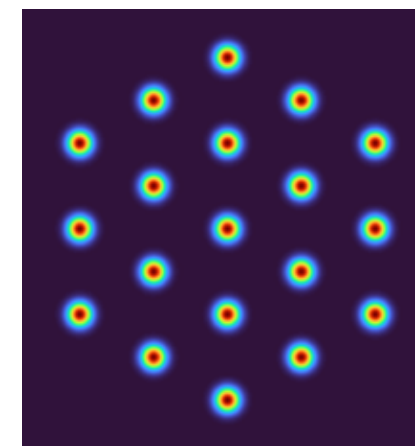


Example: Coherently Combined Fiber Laser effector



Solutions

1. High-brightness collimation of diode laser pump source
2. Wavelength / line-locking of diode laser pump source
3. Collimation of fiber array
4. Precision alignment of optics to fiber array source
5. Beam shaping of aggregate beam and sub-apertures
6. Tiling of sub-apertures with high fill-factor
7. High LIDT, low loss optics



Thank you

Let's connect

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