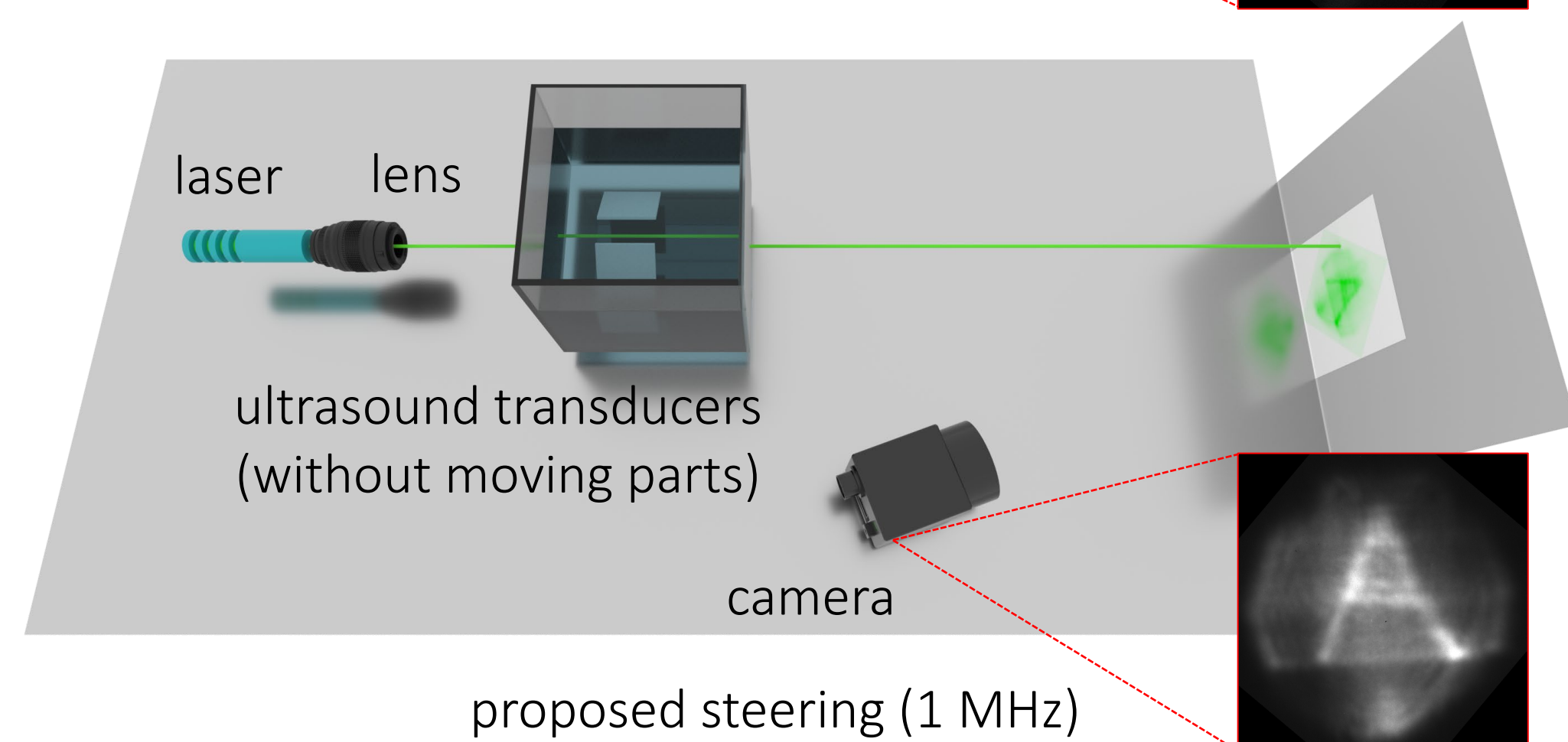
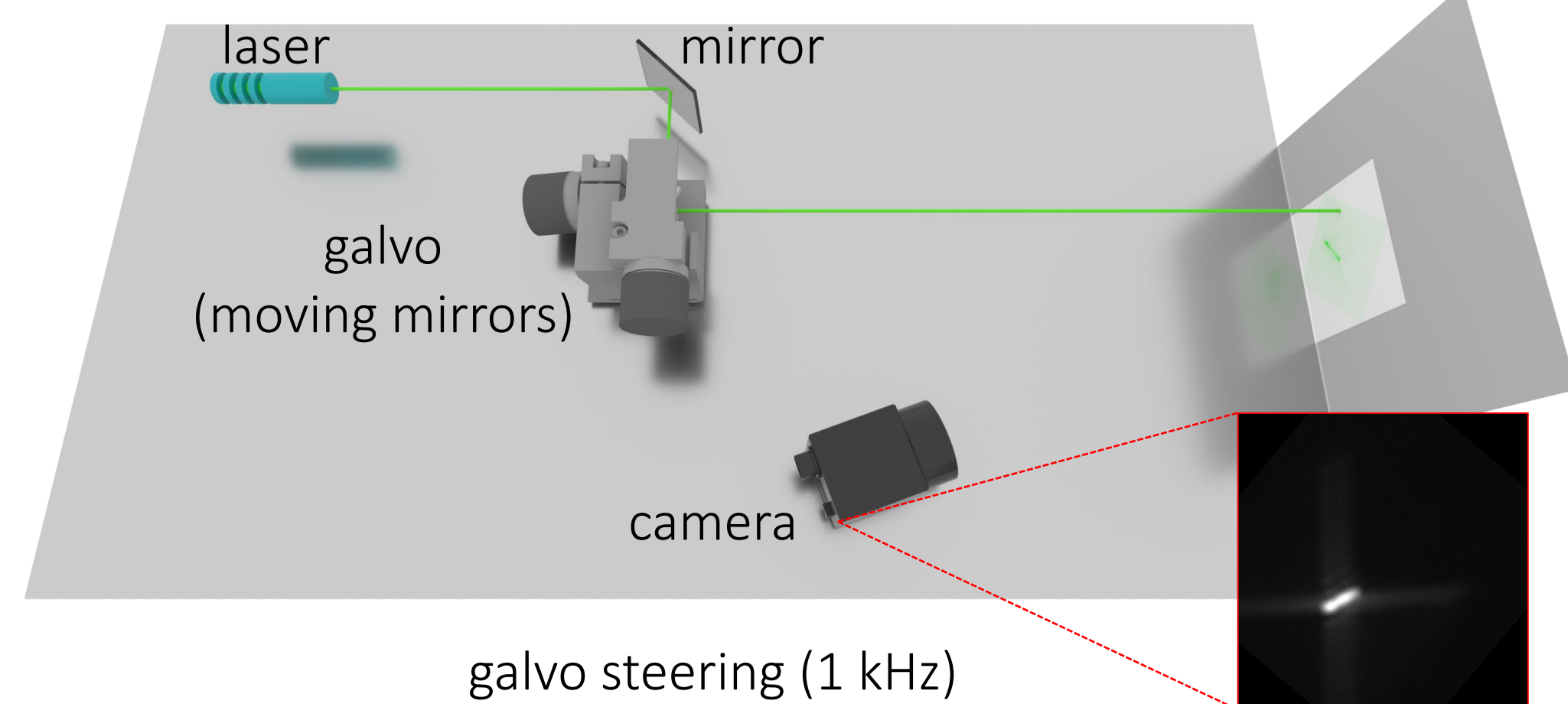
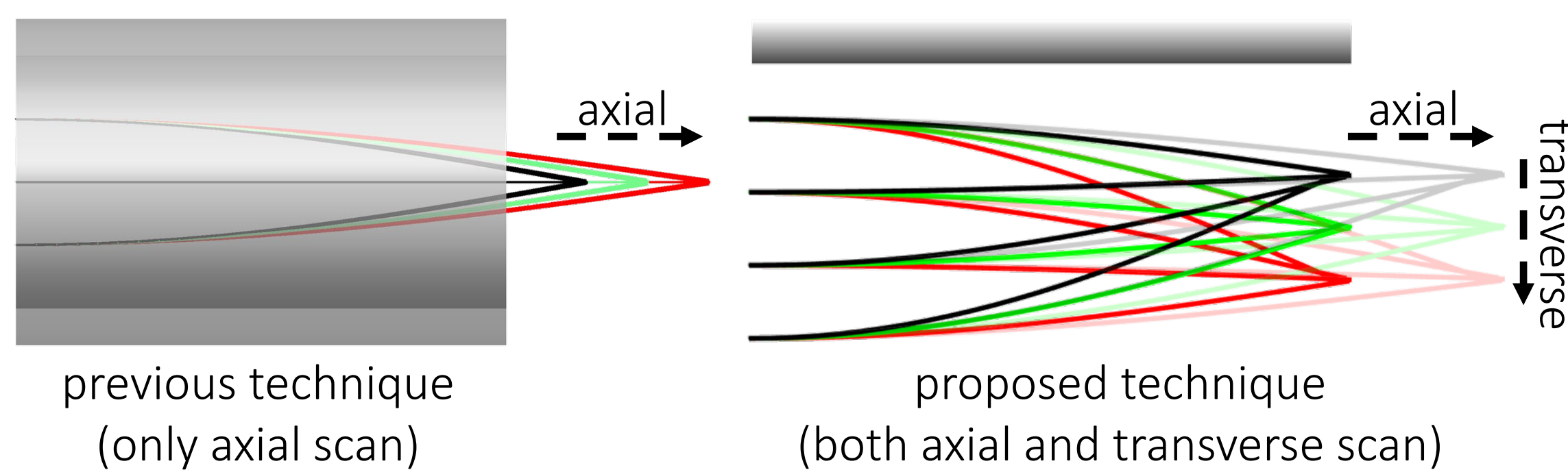


- steering light 1000x faster than Galvanic mirrors
- low-cost (~\$100) device
- uses ultrasound to turn any medium (such as water) into a programmable traveling lens.

scanning systems



comparison with previous acousto-optic techniques

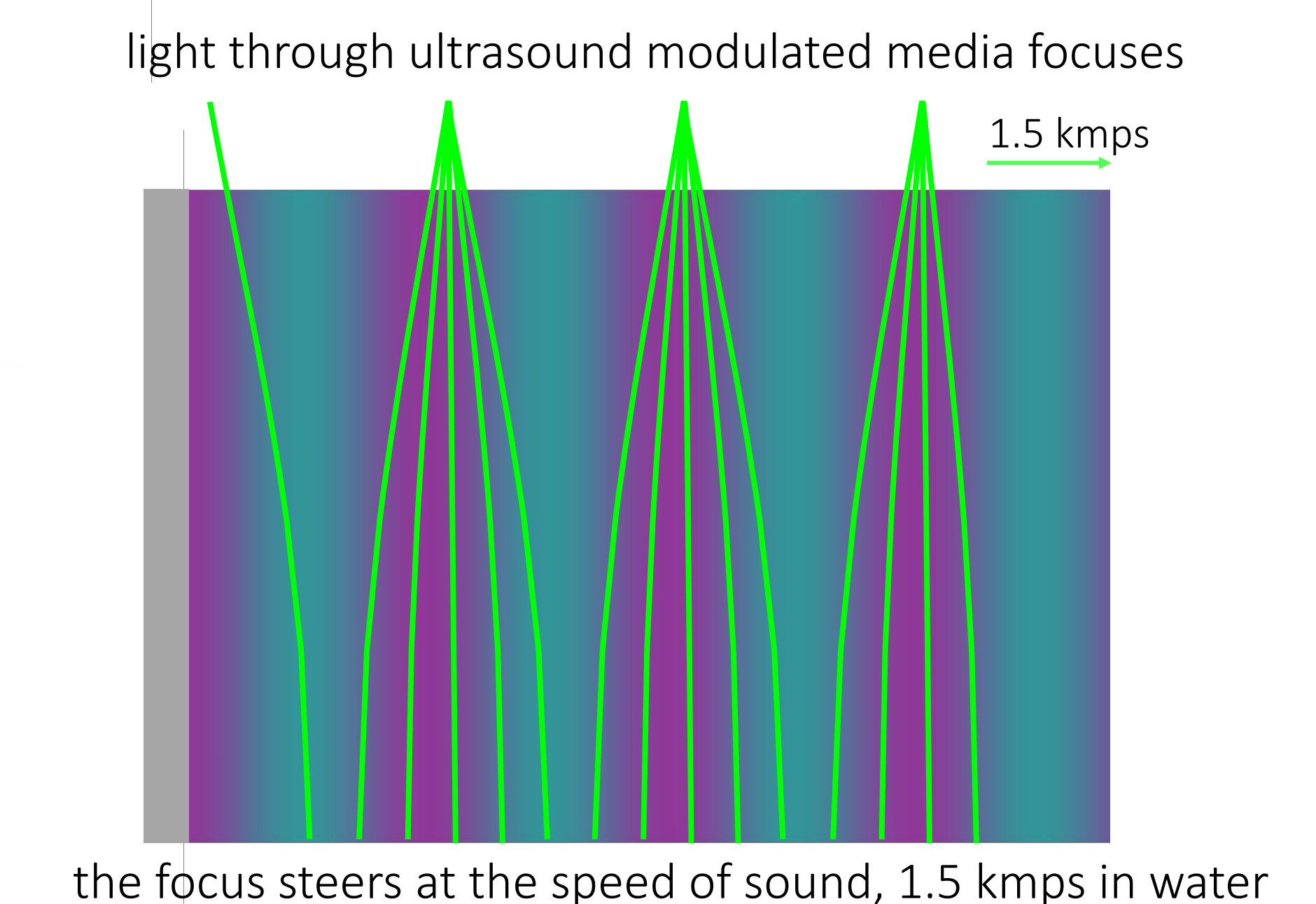
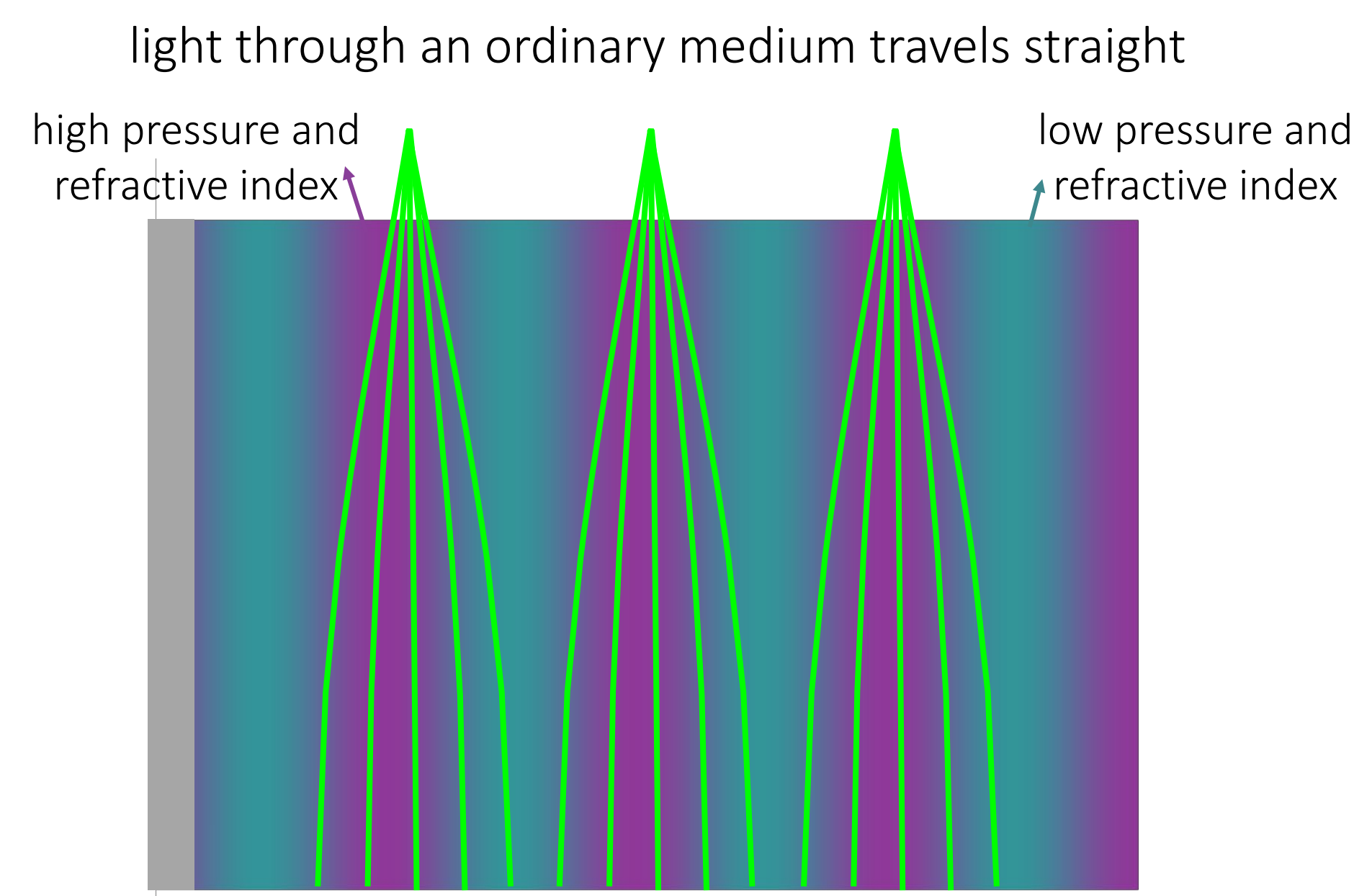
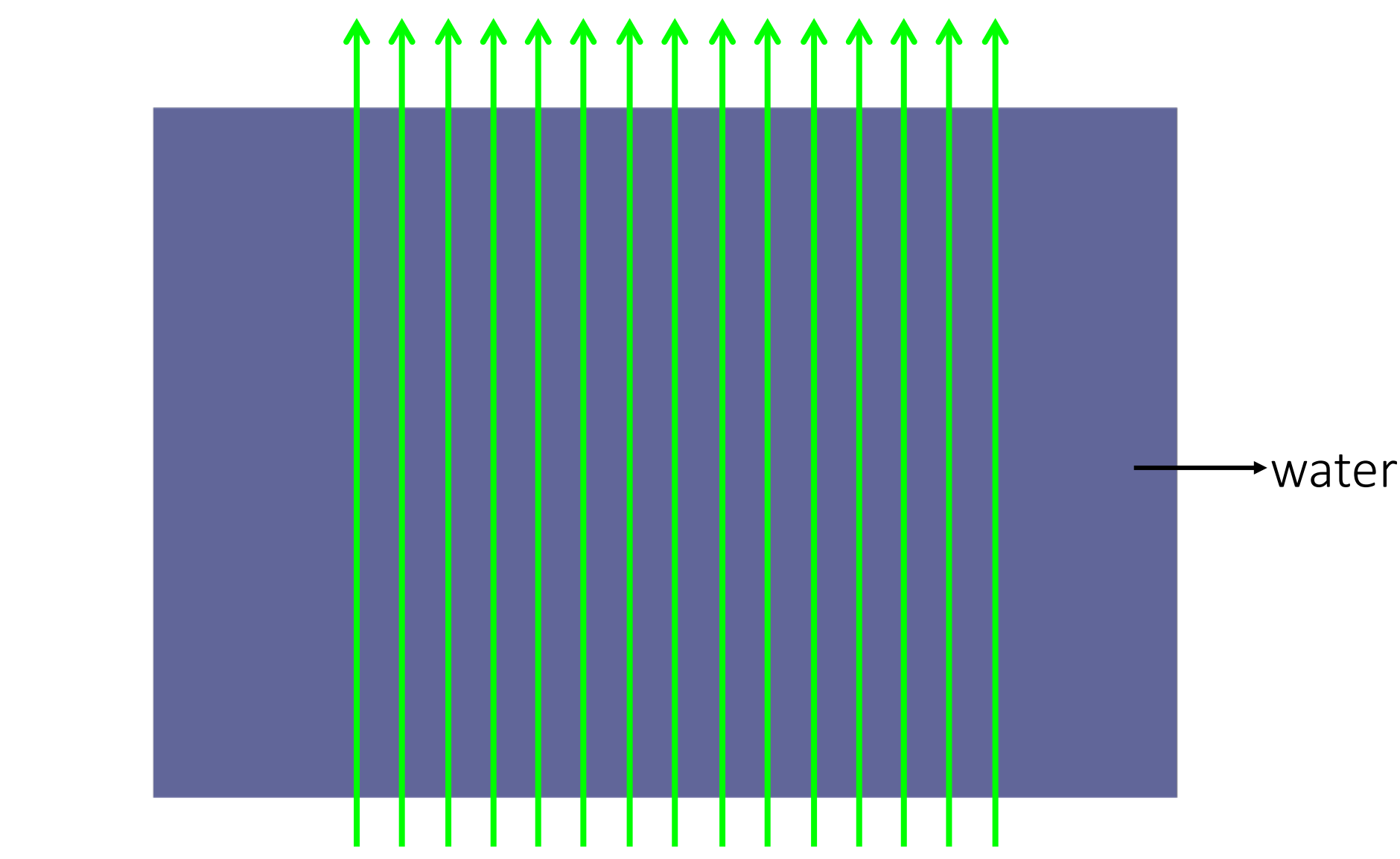


Megahertz Light Steering without Moving Parts

Adithya Pediredla¹, Srinivasa Narasimhan², Maysam Chamanzar², Ioannis Gkioulekas²
¹Dartmouth College, ²Carnegie Mellon University

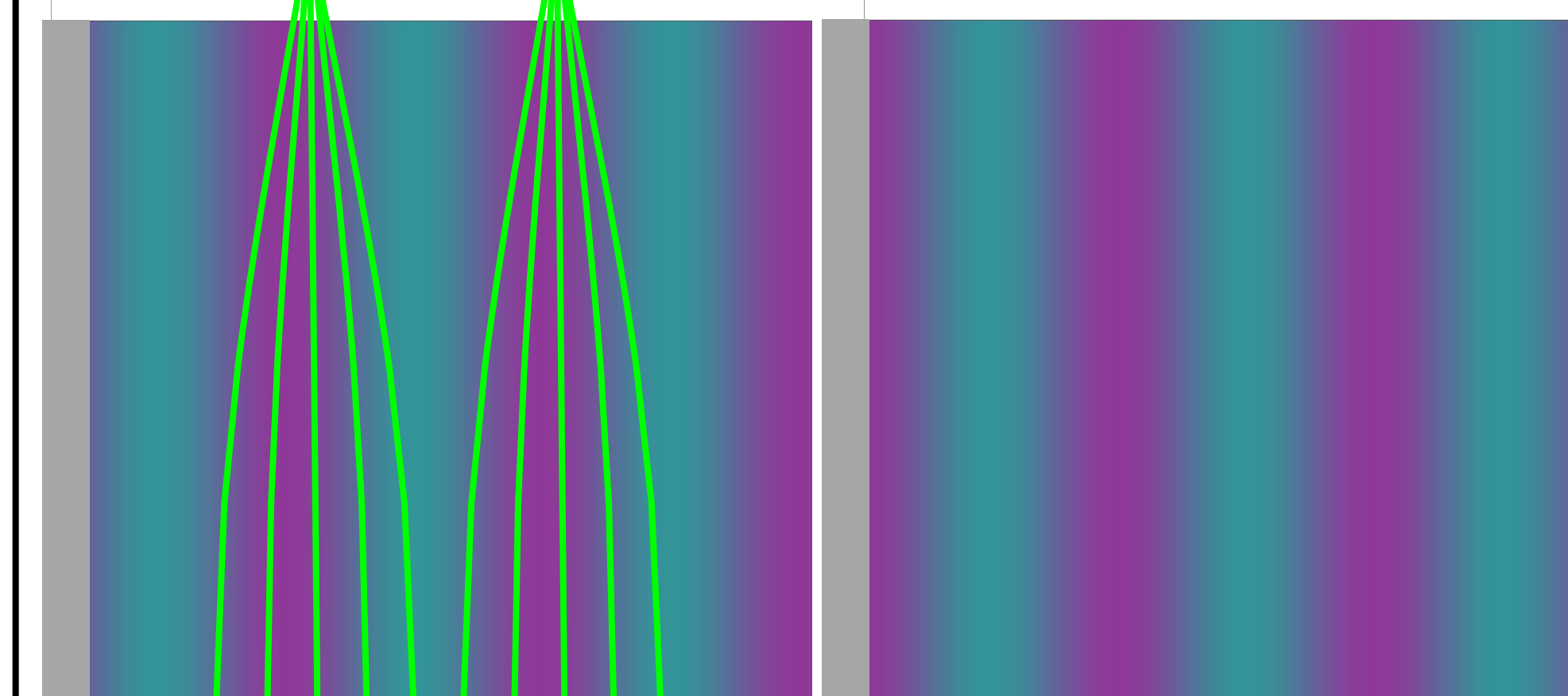
https://imaging.cs.cmu.edu/ultrafast_steering/

physics of programmable traveling lens

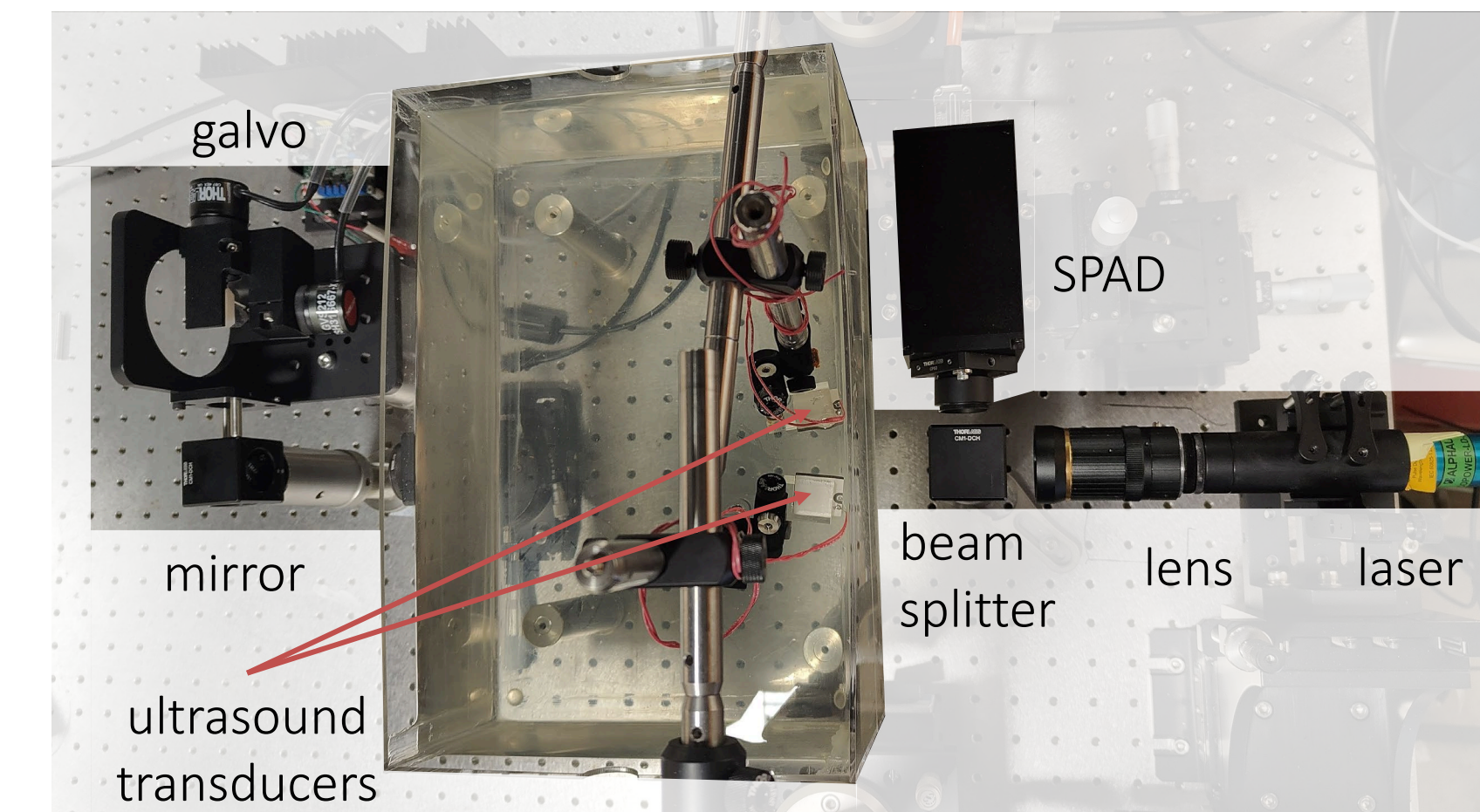


light on

light off

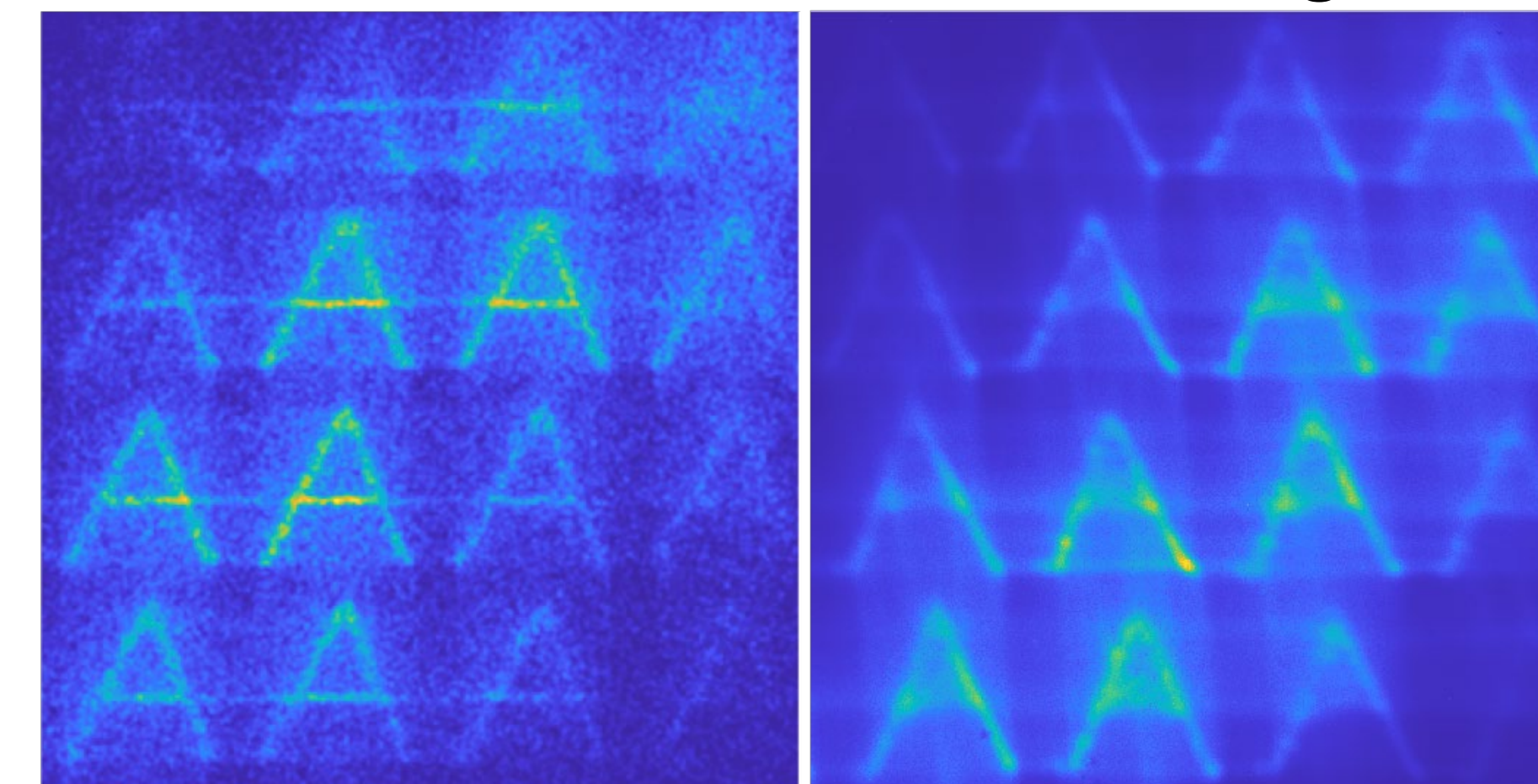


hardware prototype

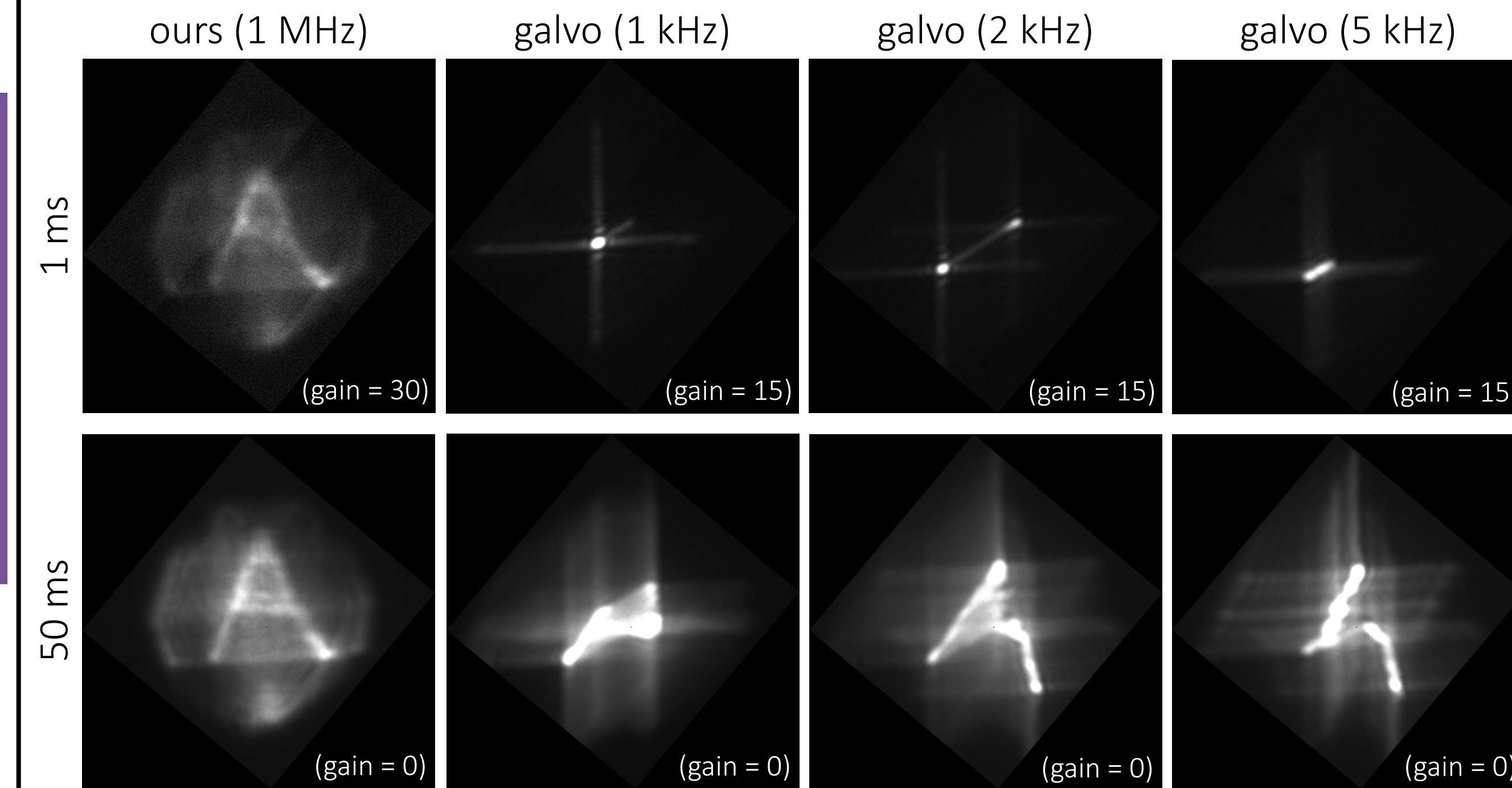


experimental prototype

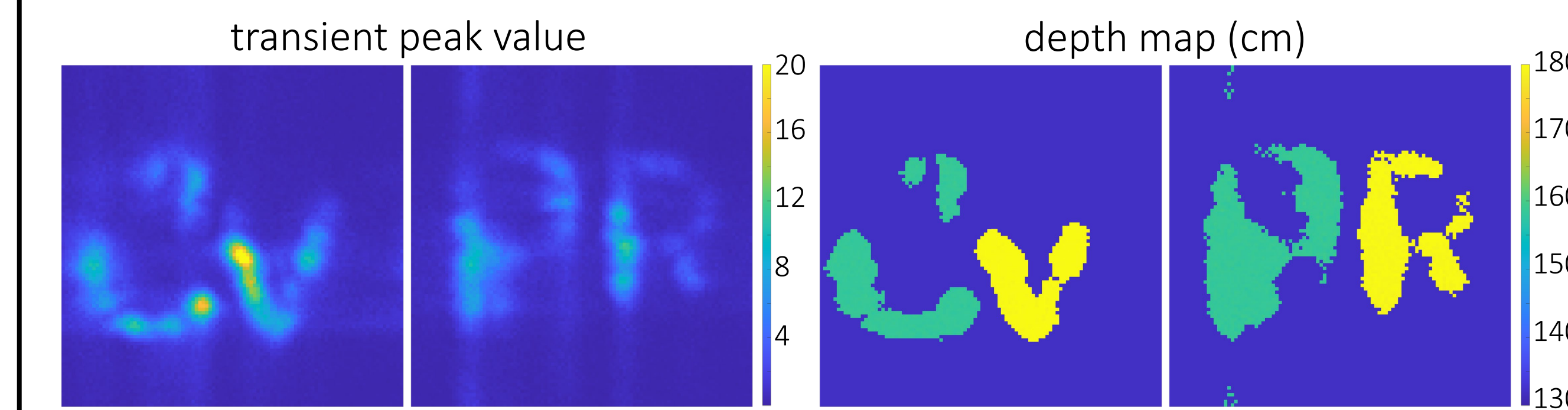
custom built renderer for design



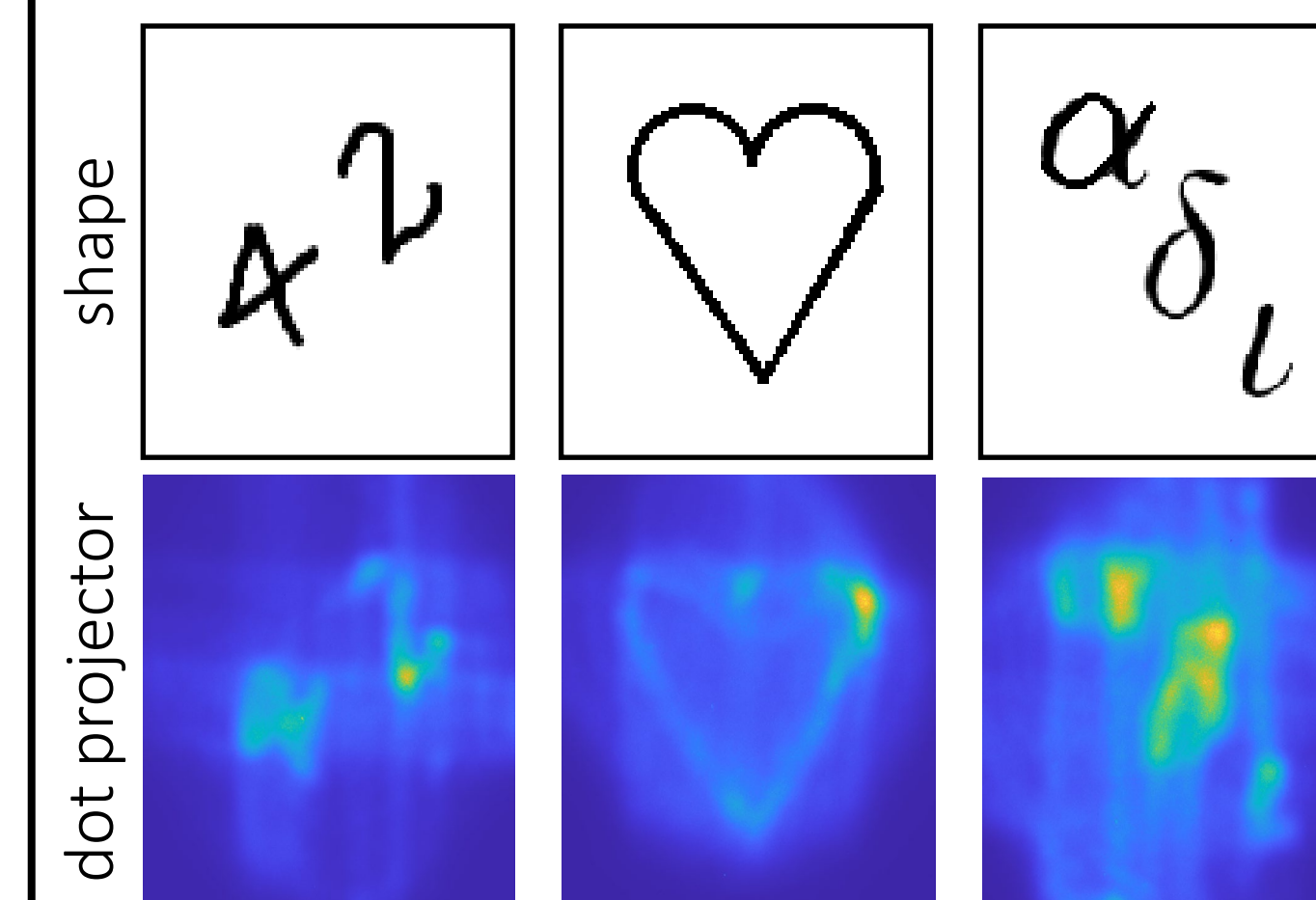
applications: 1000x faster projector



applications: 100x faster Lidar



more scans



limitation: diffraction blur

