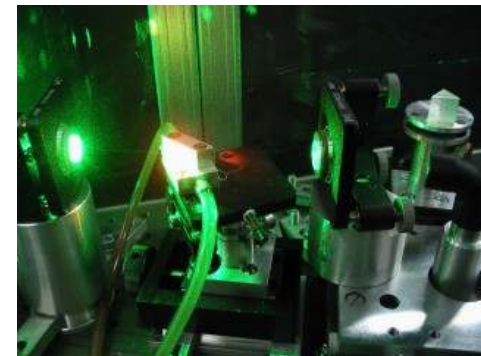
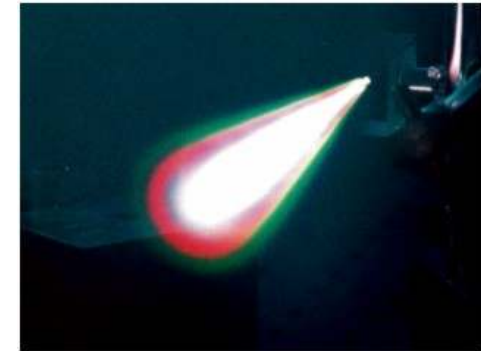
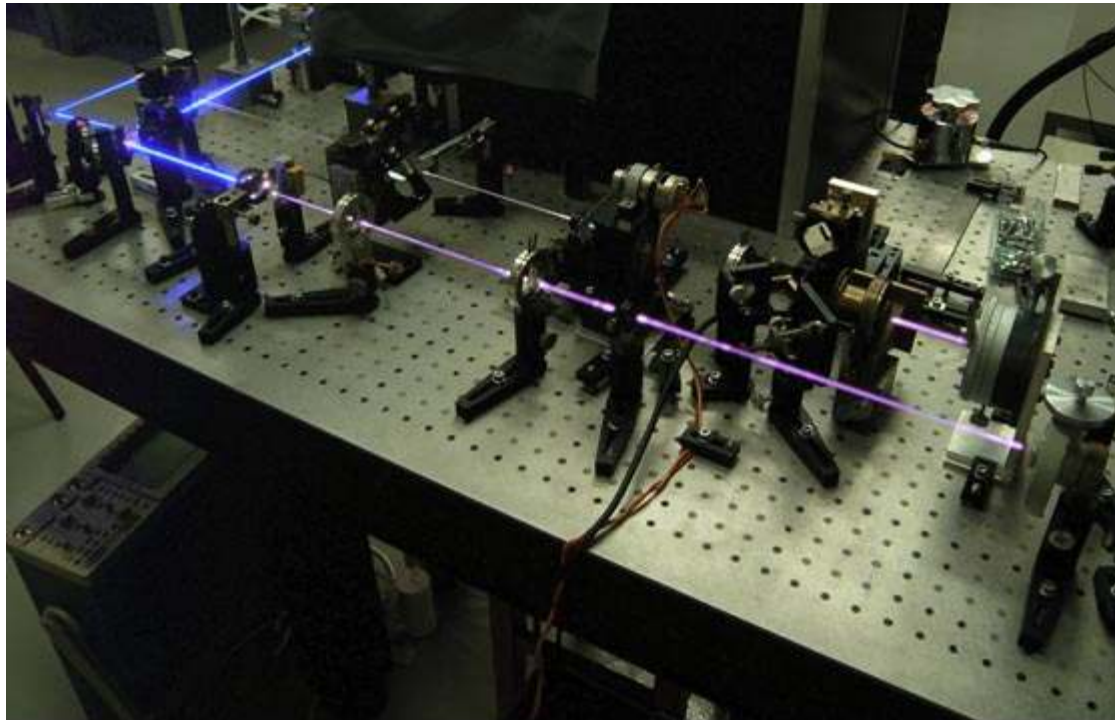
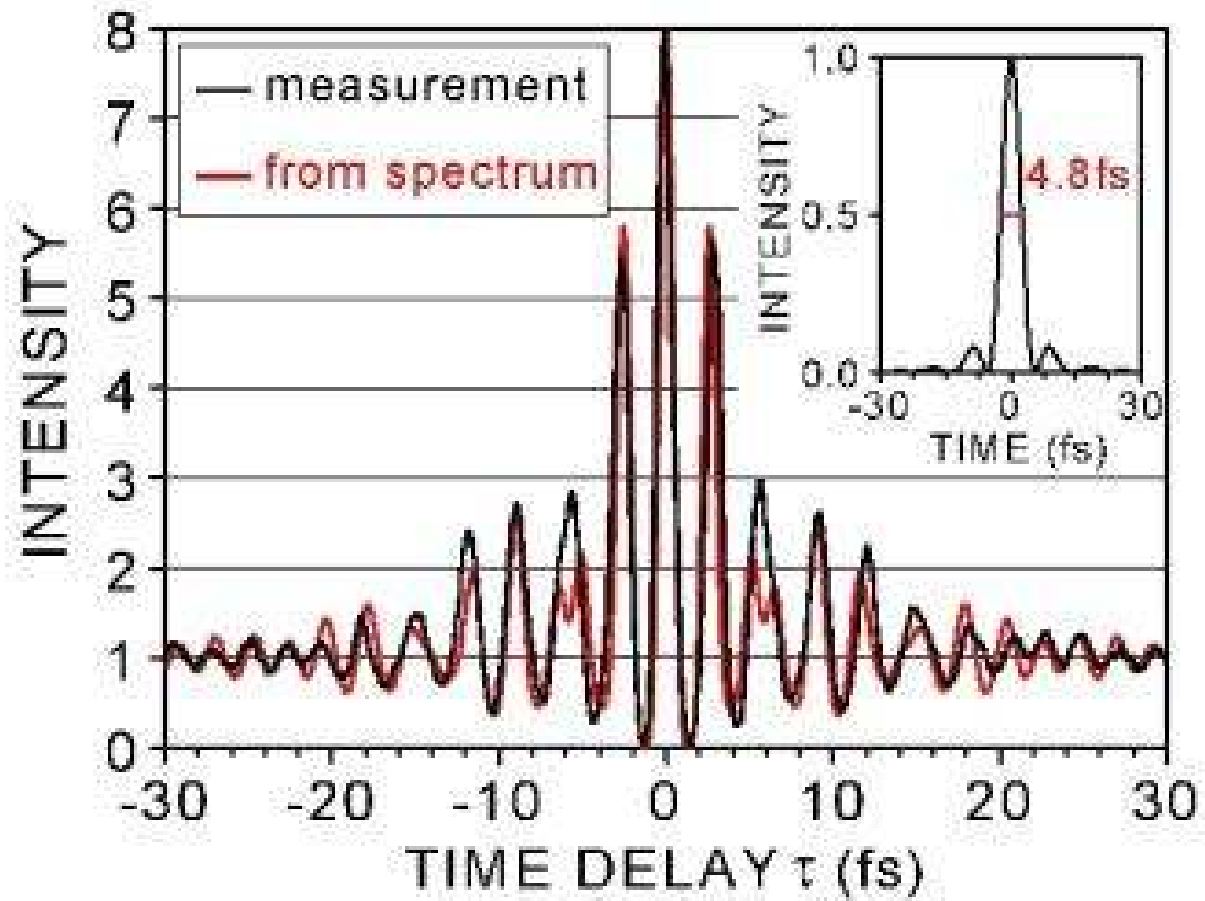
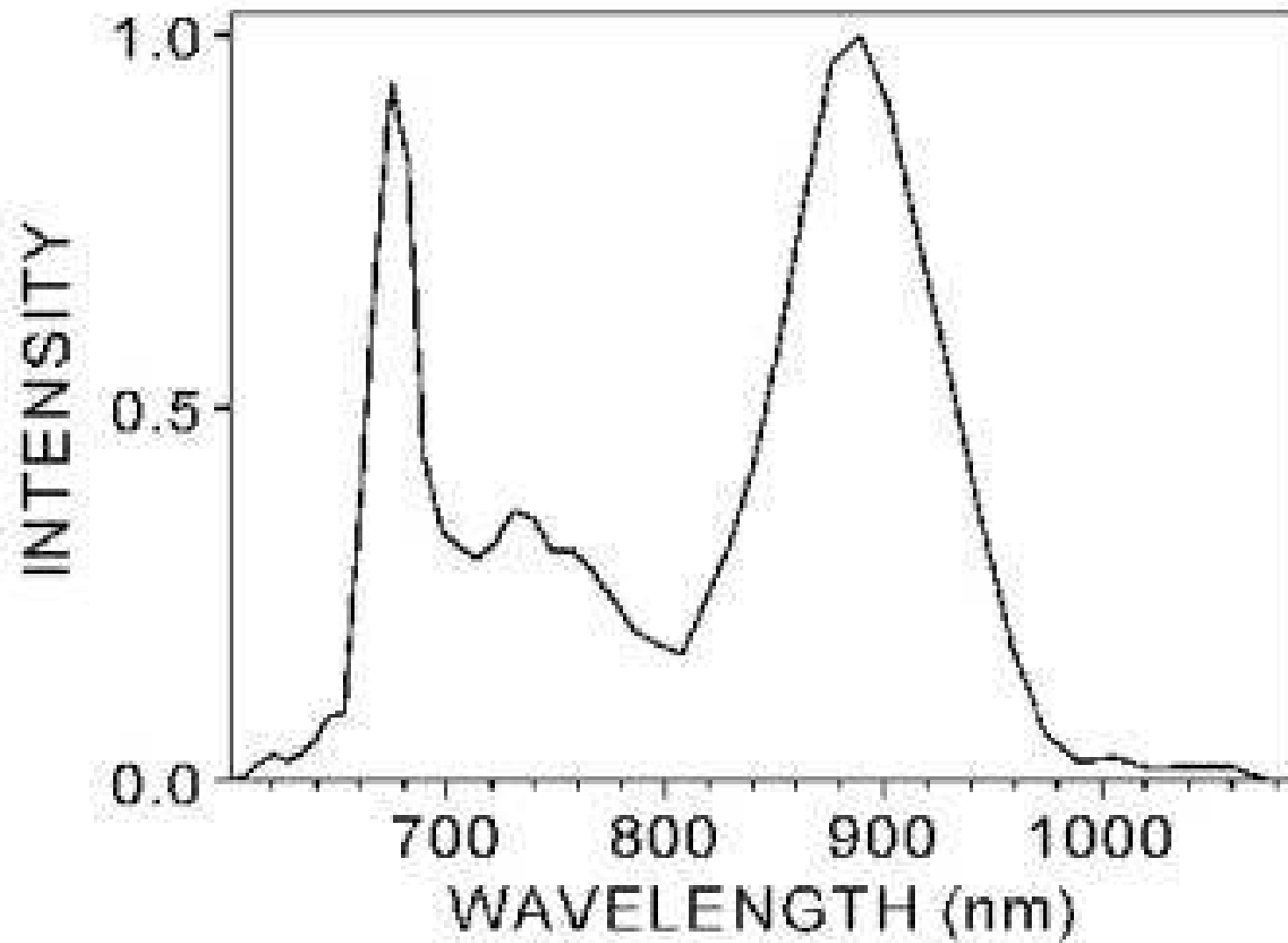


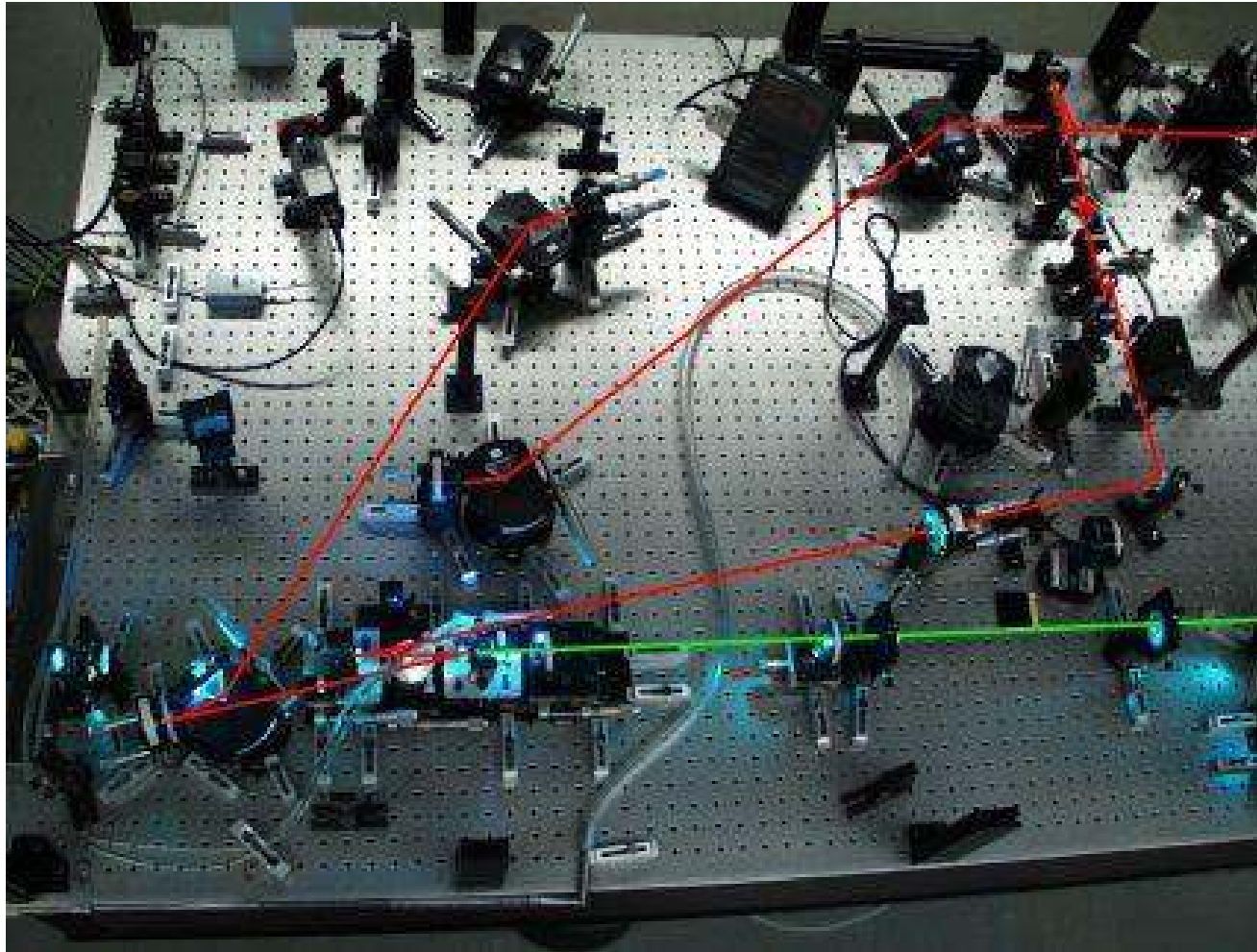


Dr Piotr Wasylczyk
Nielineowo, adaptacyjnie
i femtosekundowo,
czyli ekstremalnie w optyce.



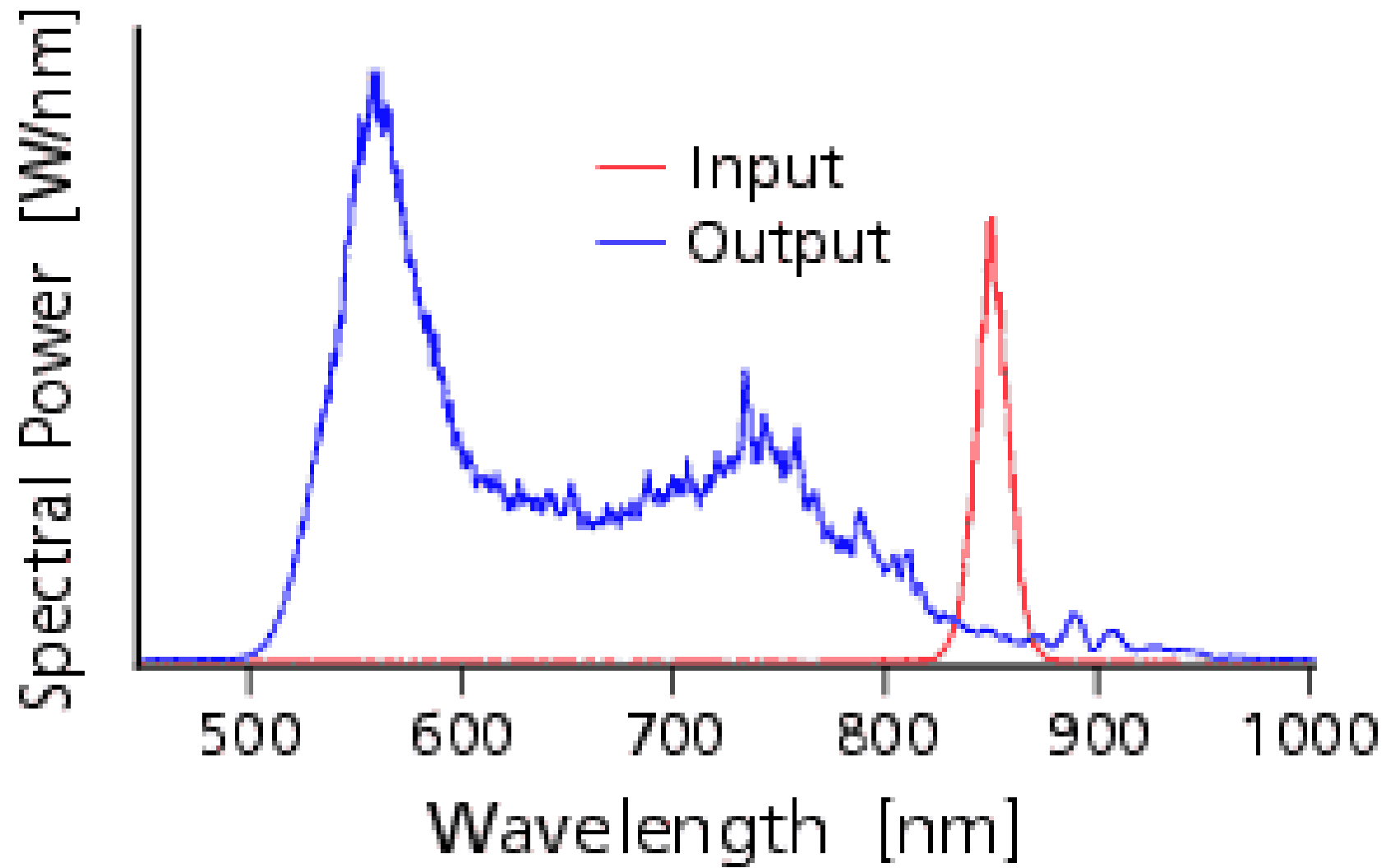


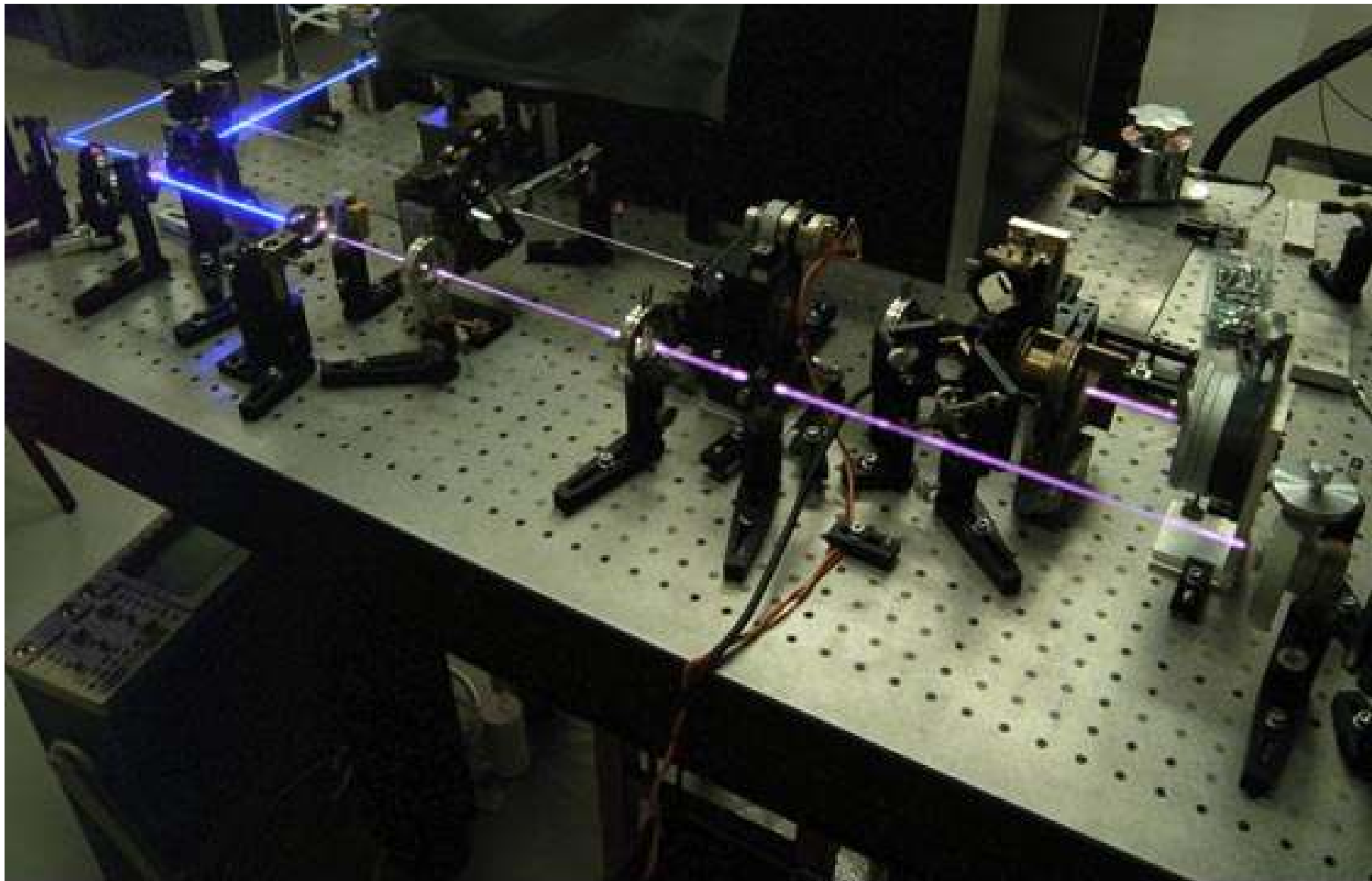


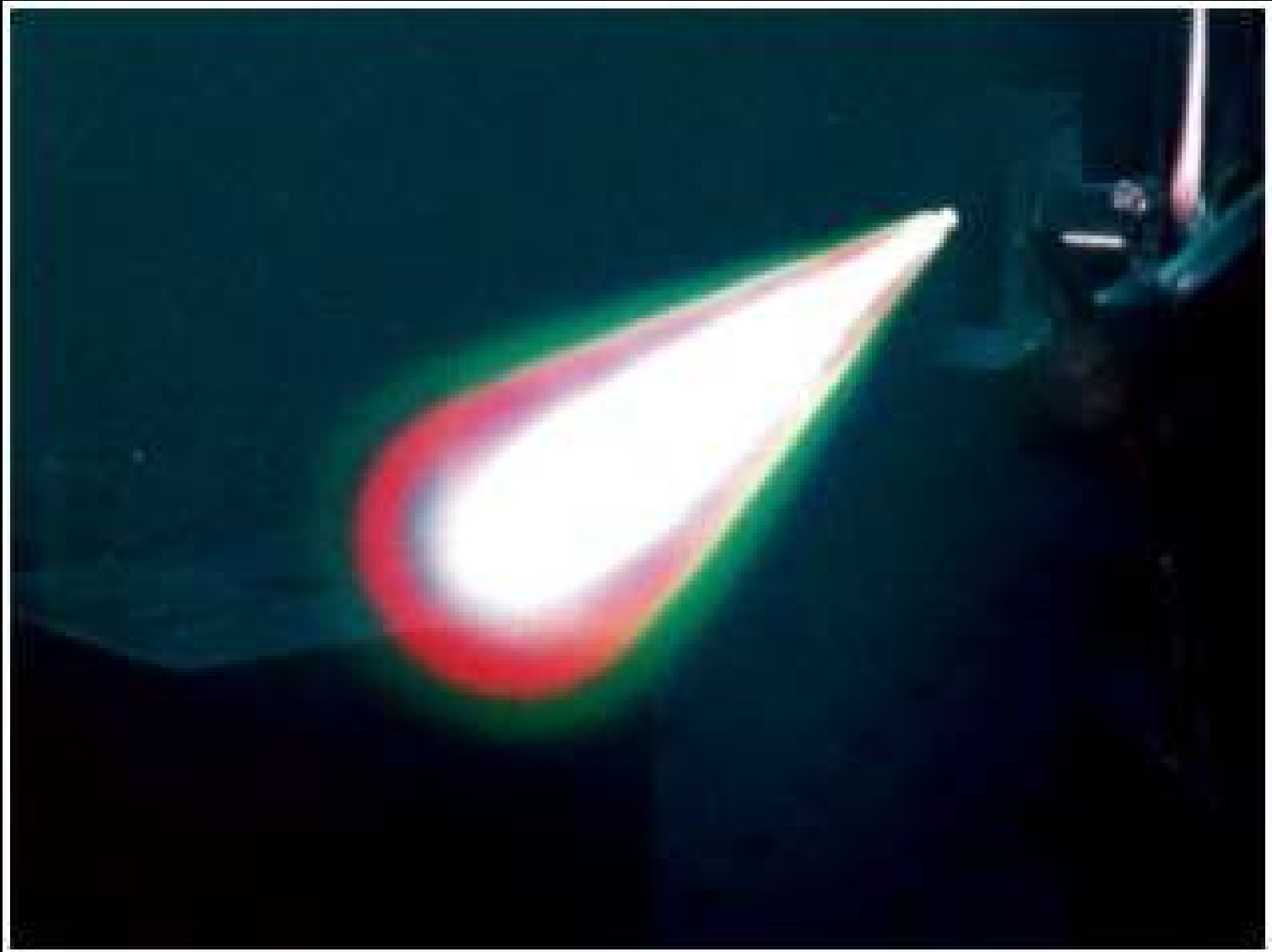


The logo for the Optoelectronics Group at the University of Bath. It features the text "Optoelectronics Group" in a large, bold, white sans-serif font, with "University of Bath" in a smaller, white sans-serif font directly below it. The background of the entire slide is a dark, artistic photograph of an optical experiment. A horizontal laser beam with a rainbow spectrum (red, orange, yellow, green, blue, purple) is visible on the left. From this beam, several bright, glowing, translucent fiber optic cables emerge, looping and twisting in a complex, three-dimensional pattern. The cables are illuminated from within, creating a vibrant, ethereal glow. The background is dark, with some blurred lights and a perforated metal surface visible, suggesting a laboratory setting.

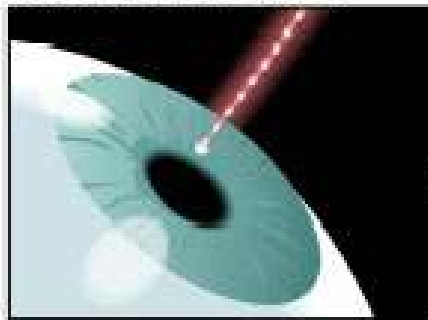
Optoelectronics Group
University of Bath



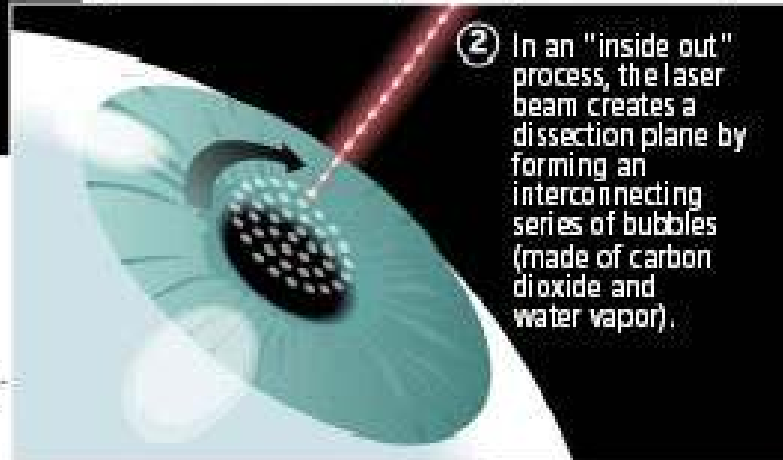




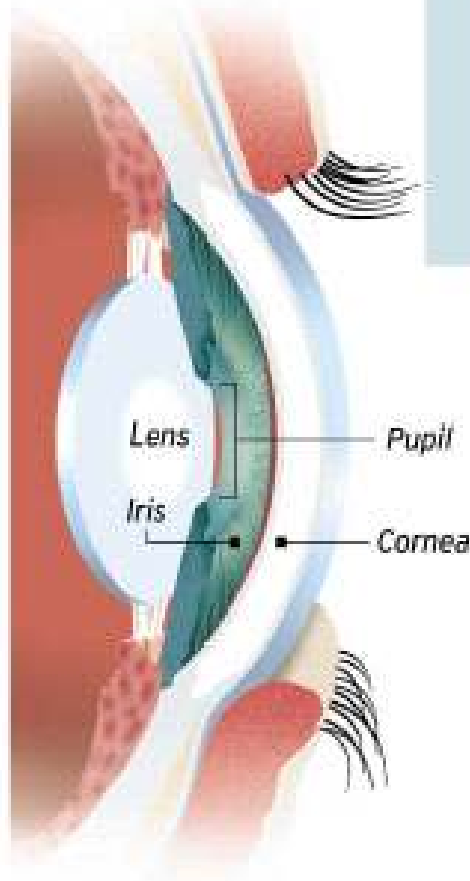
INTRALASE FS Laser



- 1 IntraLASIK software directs the INTRALASE FS Laser to optically focus its beam into a tiny, 3 micron spot of energy that passes harmlessly through the outer layers of the cornea until reaching its exact focal point within the stroma (central layer of the cornea).

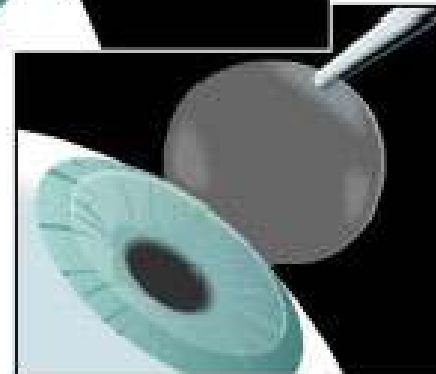


- 2 In an "inside out" process, the laser beam creates a dissection plane by forming an interconnecting series of bubbles (made of carbon dioxide and water vapor).



Eye anatomy at a glance

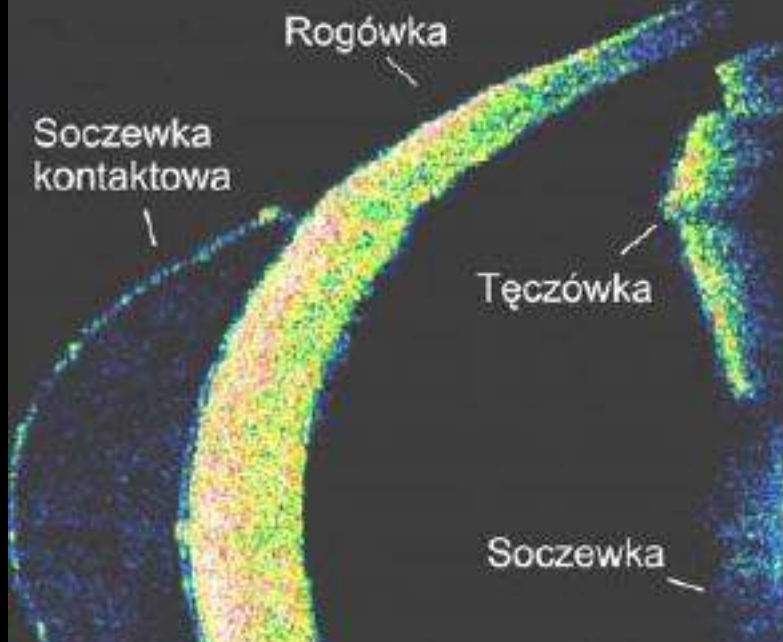
The cornea is a dome-like structure of transparent tissue that extends over the lens, pupil and iris. The cornea's curvature affects the way incoming light rays are bent so that they focus optimally onto the retina for maximum visual acuity.



- 3 The laser beam stacks a pattern of bubbles along the periphery of the ablation plane, leaving an uncut section of tissue to act as a hinge. As with a traditional LASIK approach, the surgeon then folds the tissue back to expose the underlying corneal layer to prepare for the excimer laser treatment that will re-shape the cornea.



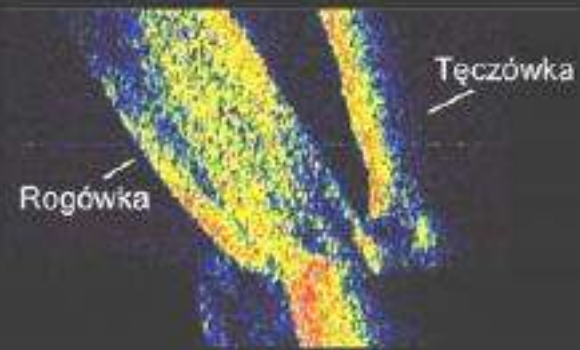
a.

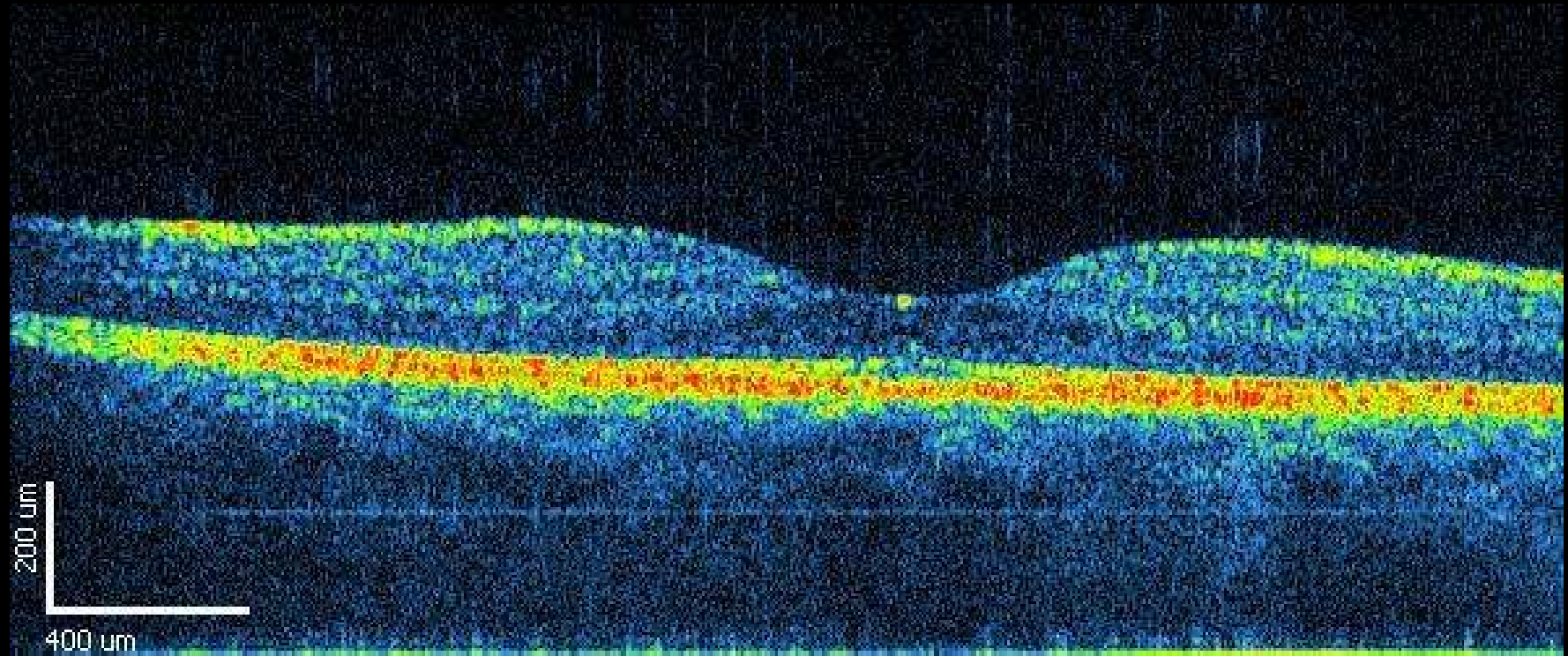


b.

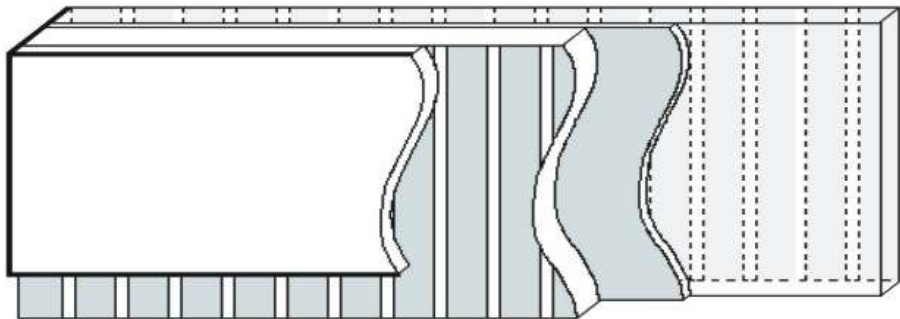


c.

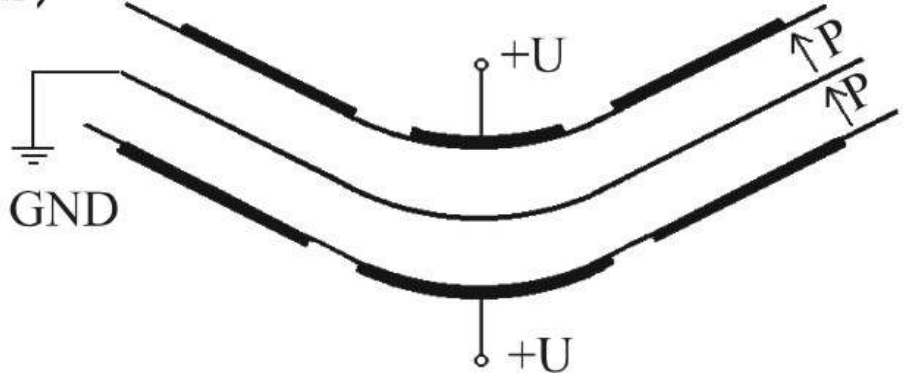




(a)

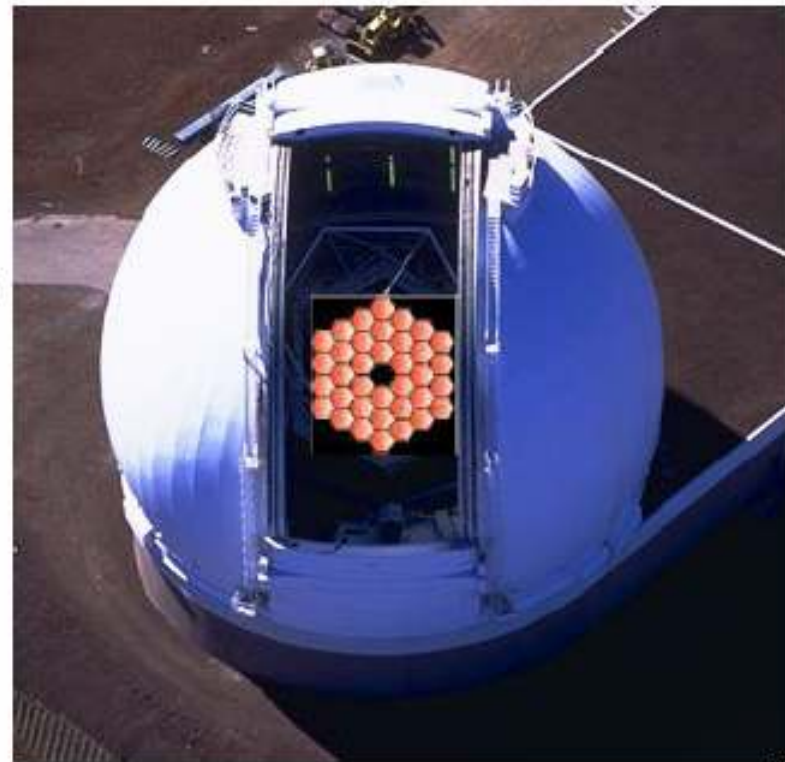


(b)





- The rule of classical thick mirrors to remain rigid under gravity : $\text{thickness} = \text{diameter} / 6$
- For an 8m telescope : 130 cm ! ; the safe cooling of such a mass of glass is not possible in a decent time
- Solutions :
 - cut into pieces the primary : Keck telescope
 - Build a thin mirror and control it with active supports : VLT



sodium layer at 80 km
excited by a resonant laser

