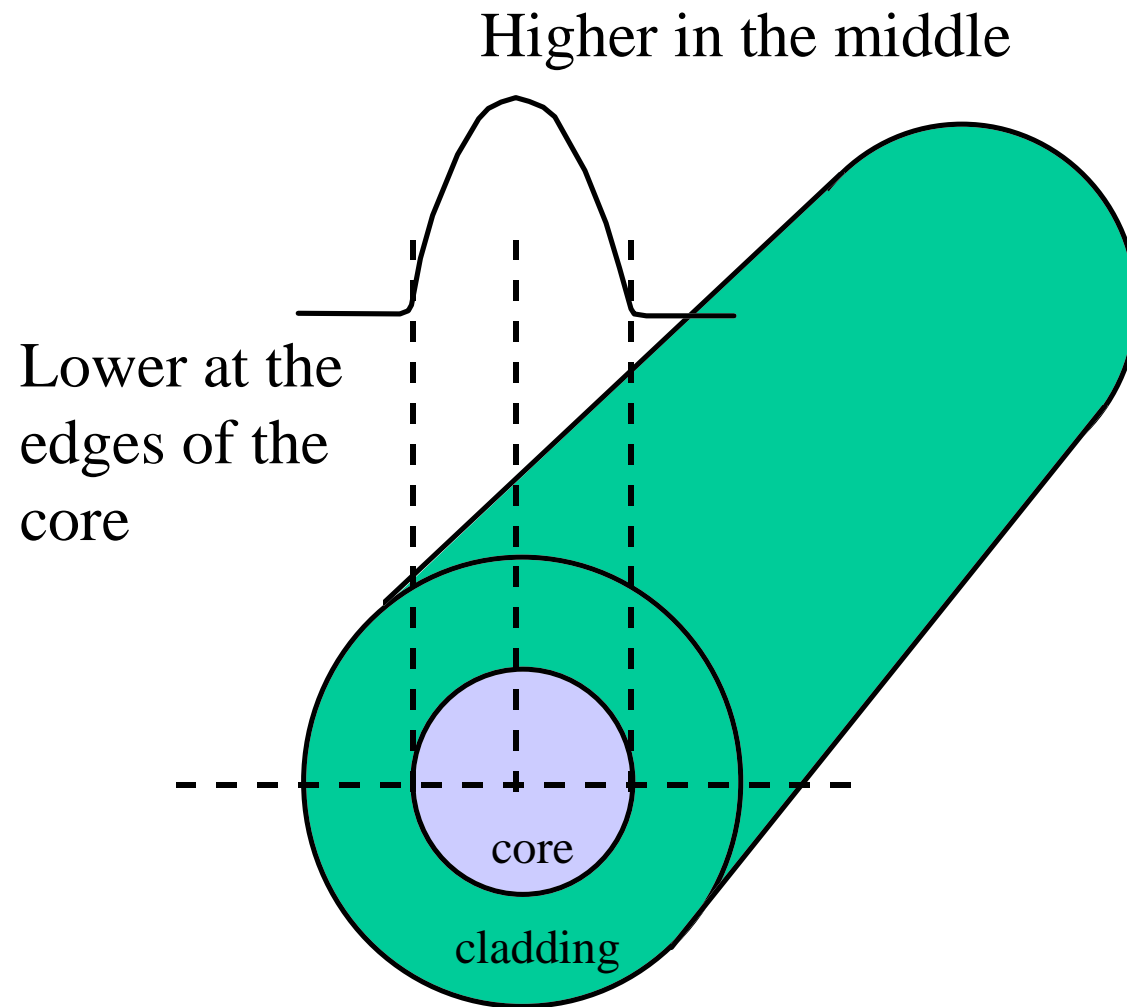
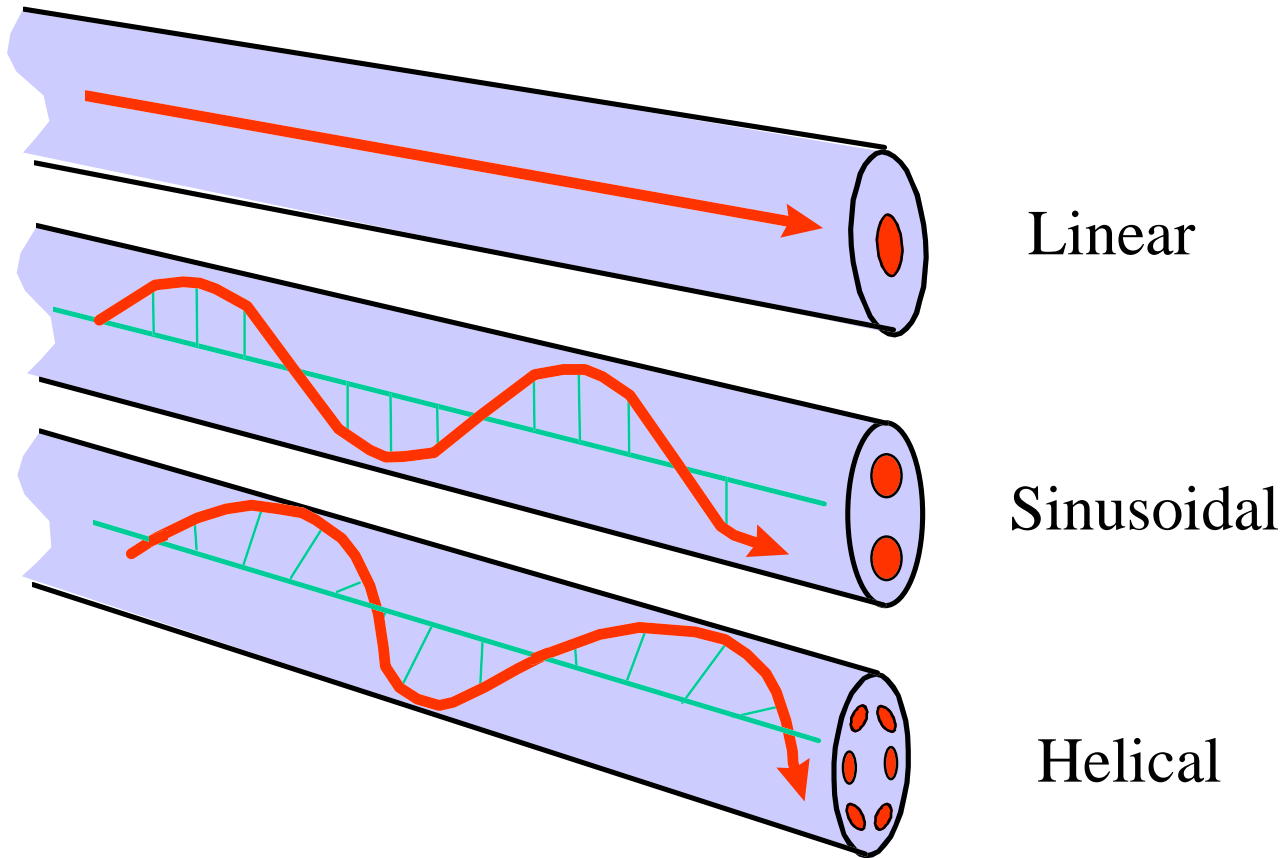


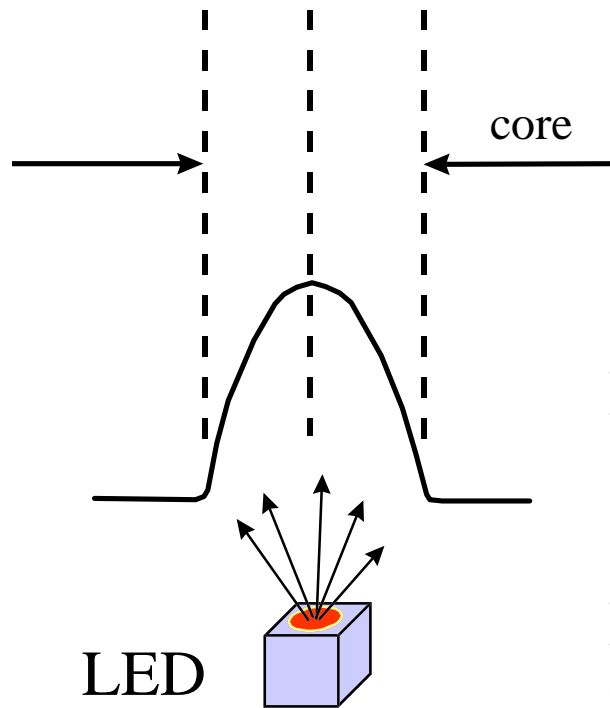
Ideal refractive index profile for graded-index multimode fiber



This core profile supports many modes optical of propagation

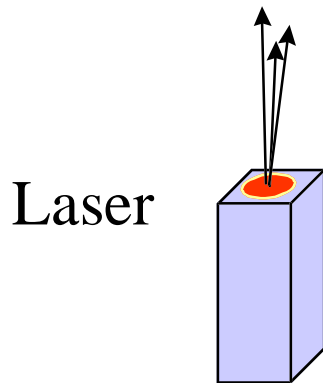


(plus combinations of the above)



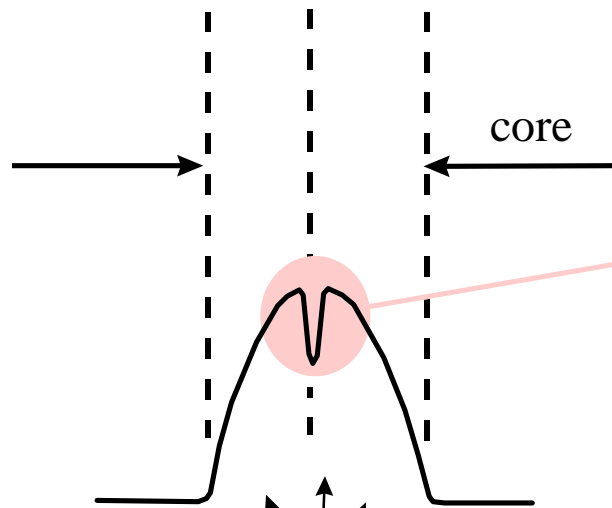
LEDs spray light in a wide pattern into the core, illuminating many modes of propagation.

Each mode carries only a fraction of the total optical power.

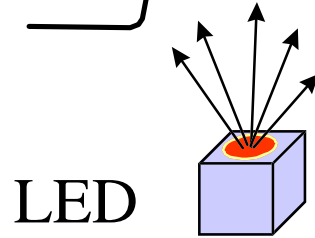


Lasers have different emission patterns, and often illuminate fewer modes of propagation.

NOTE! Sometimes the laser illuminates only the central part of the core. We used to think this was good.

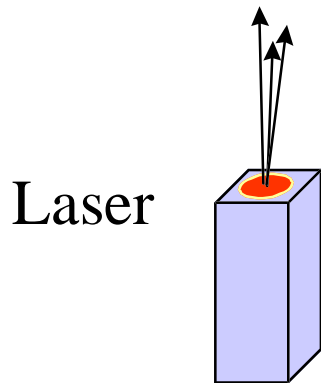


Some fibers have a notch in their index profile.



LED

LEDs are not much affected by the notch. Little of their power is concentrated in the few modes that use the damaged part of the core.



Laser

Lasers, which launch fewer modes, are more heavily affected.