

# Multi-Mode vs Single-Mode



## Multi-Mode

- ⤴ Multi-mode lasers less expensive and easier to produce in volume, but lower power, wider spread, and don't travel as far
- ⤴ Multi-mode very common in data centers, INTRA-office communications
- ⤴ Multi-mode fiber (MMF) not feasible for long distance >500m – LIMITED BY DISPERSION

## Single-Mode

- ⤴ Single-mode lasers are more complex to manufacture, thus more costly, but capable of driving longer distances (2km to 100's of kms)
- ⤴ Single-mode common to INTER-office communications and long-haul transmission
- ⤴ Single-mode fiber (SMF) specific to SM lasers. MM lasers will not work on SMF – LIMITED BY ATTENUATION (mostly...)