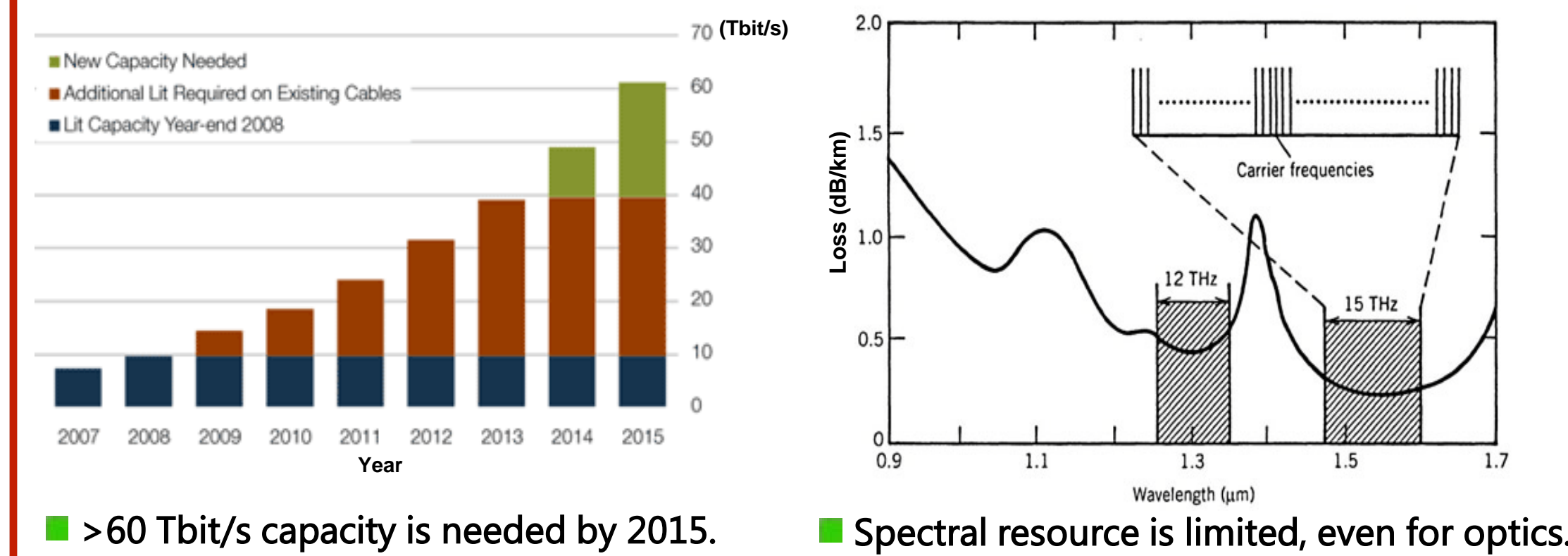


100 Tbit/s spectral-efficient Data Link Using Orbital Angular Momentum Multiplexing

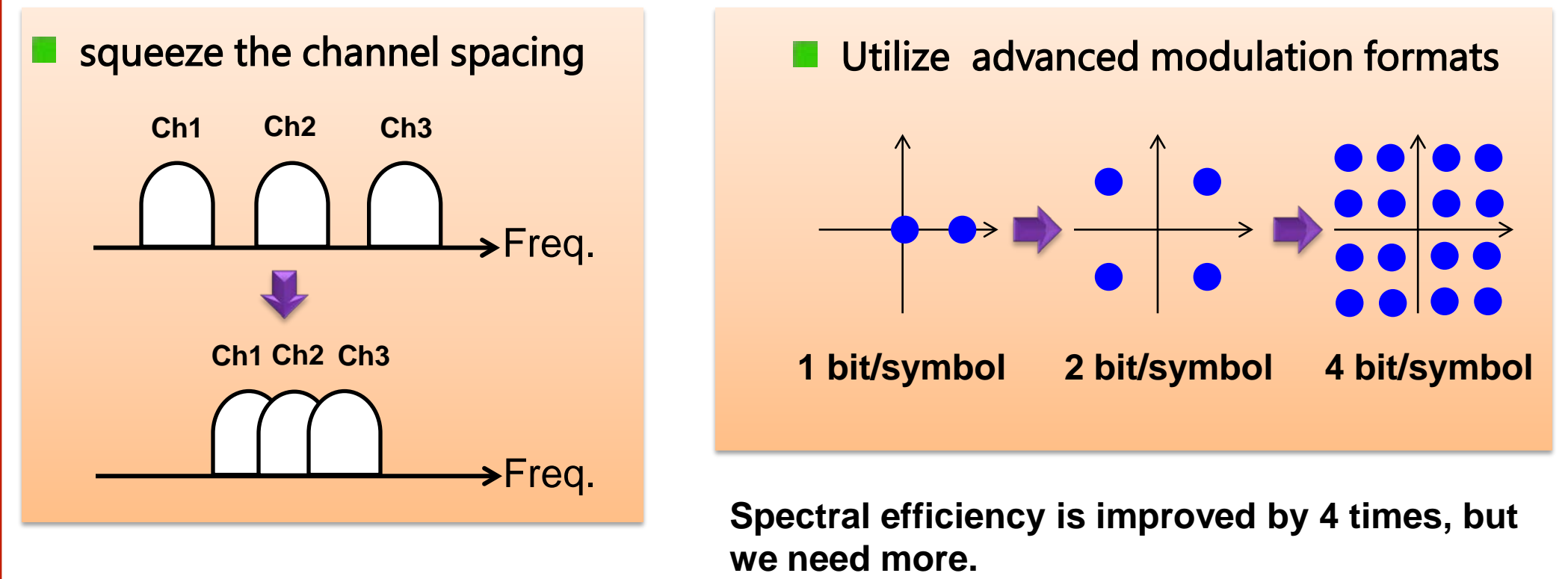
H. Huang, G. Xie, Y. Yan, N. Ahmd, Y. Ren and A. E. Willner

Optical Communication Lab, Ming Hsieh Department of Electrical Engineering, University of Southern California

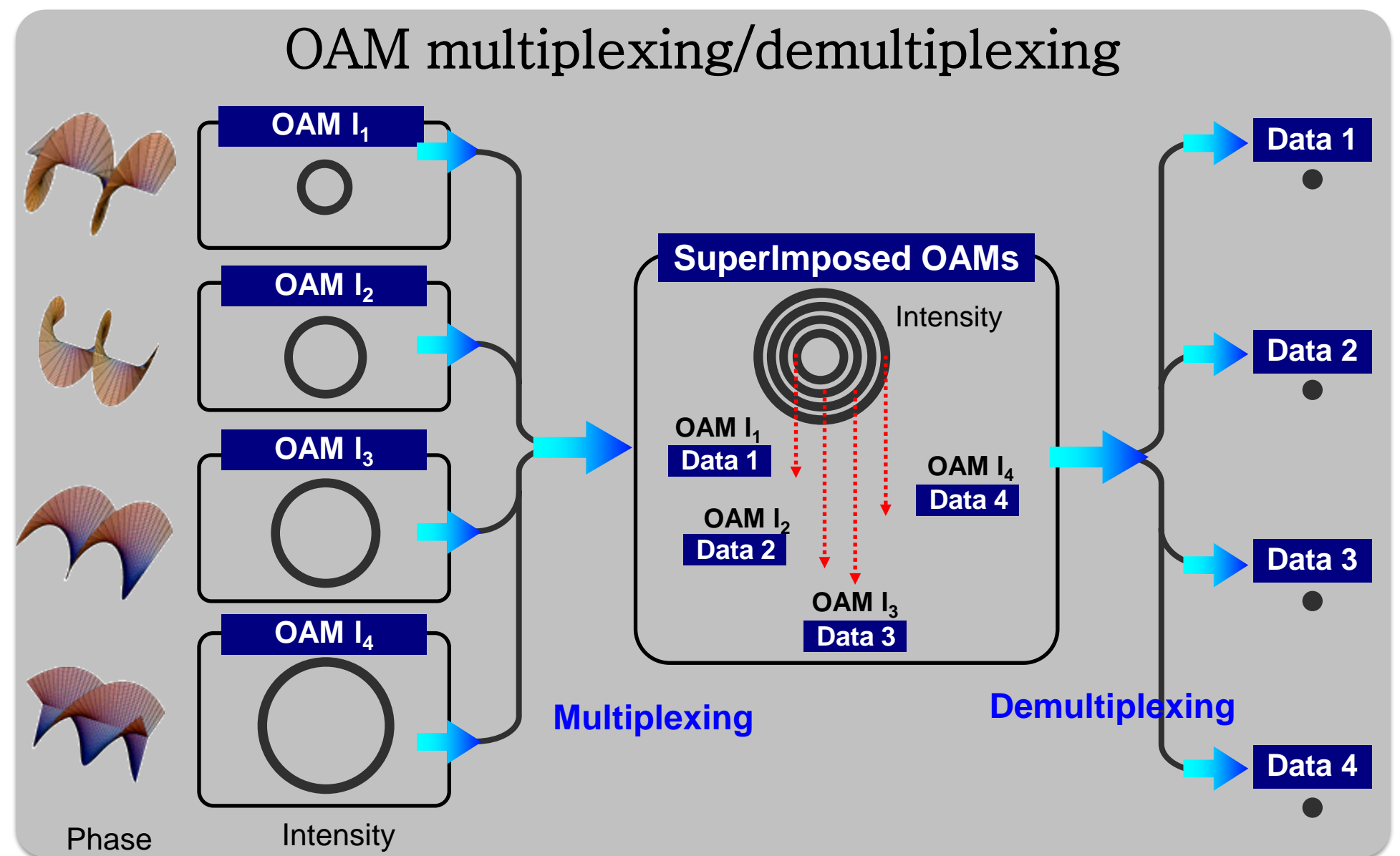
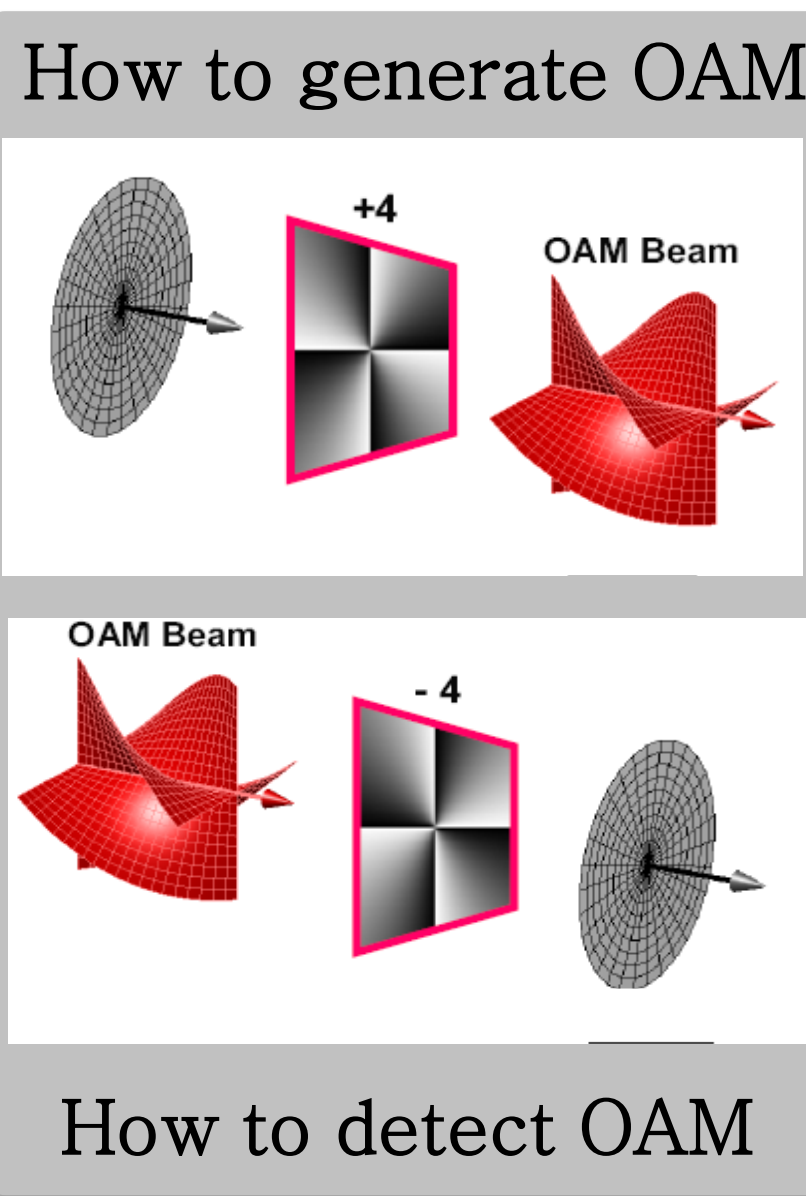
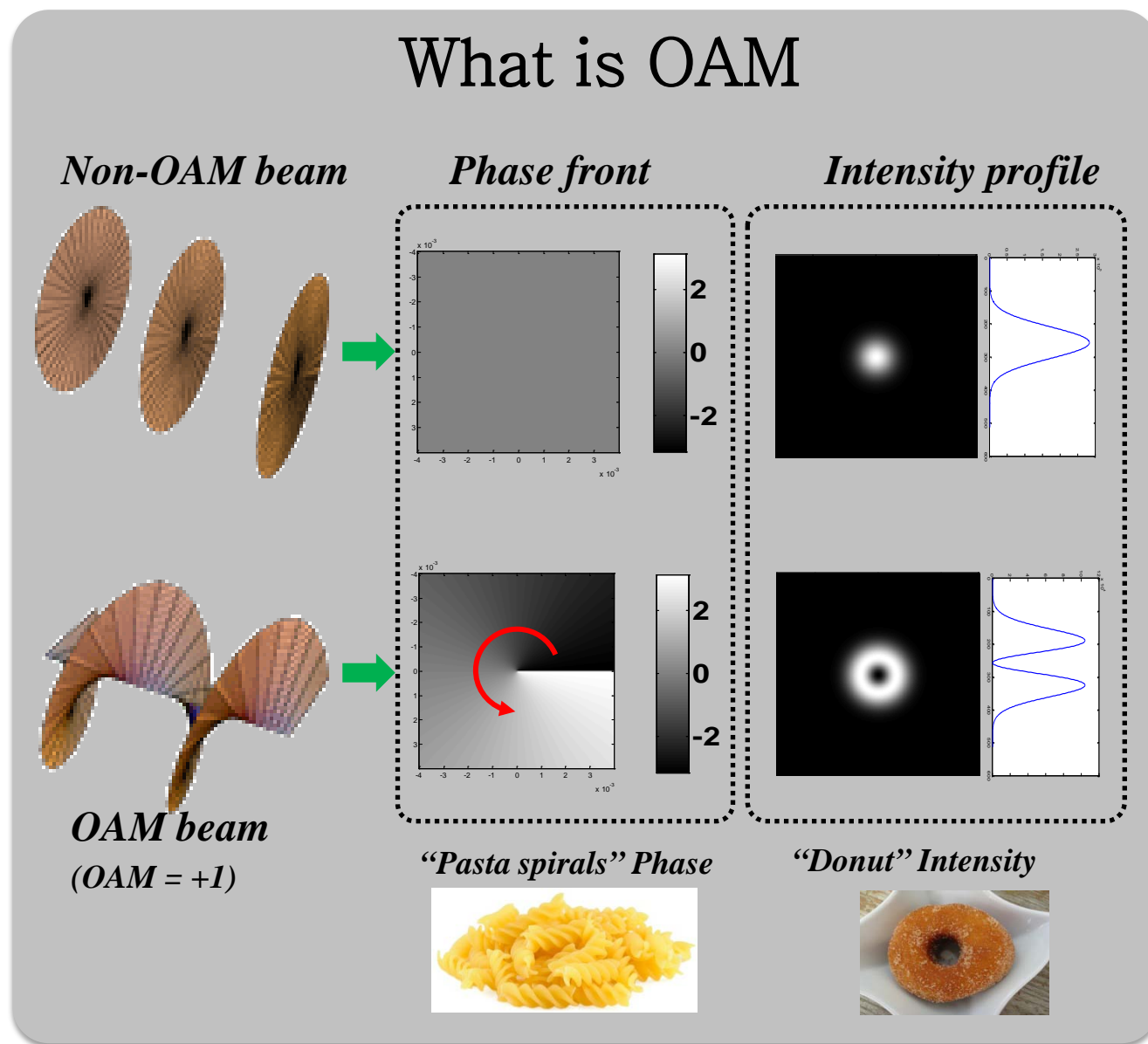
Problem: Bandwidth demand > Spectral resource



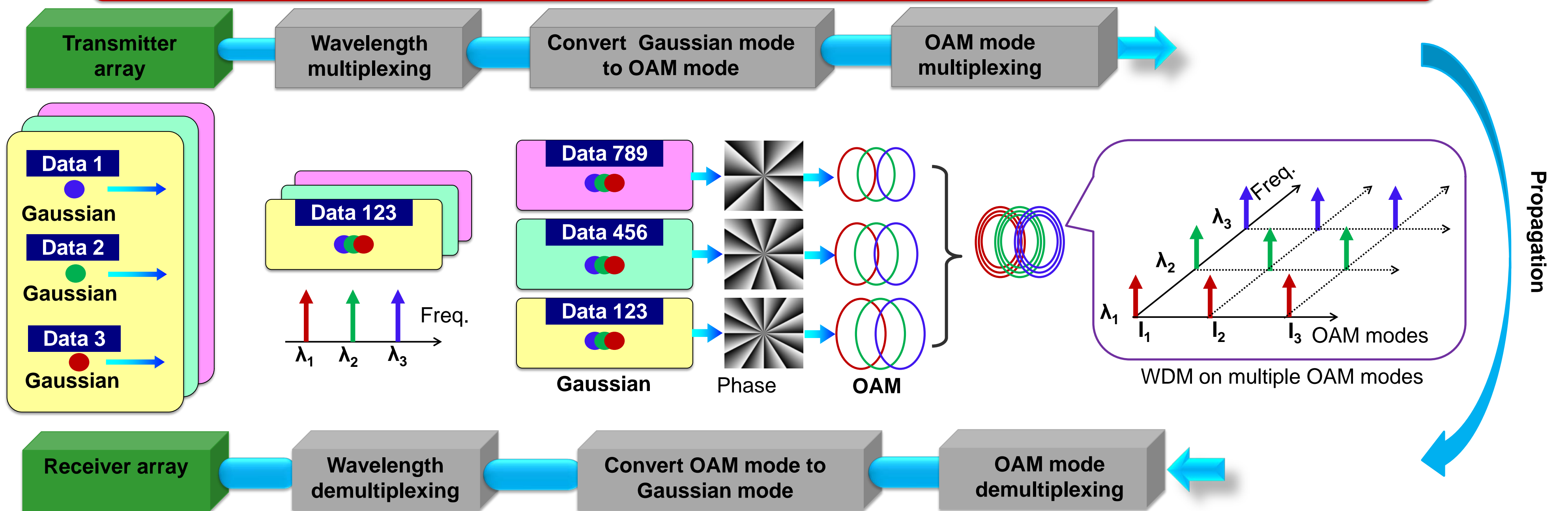
Existing Solutions



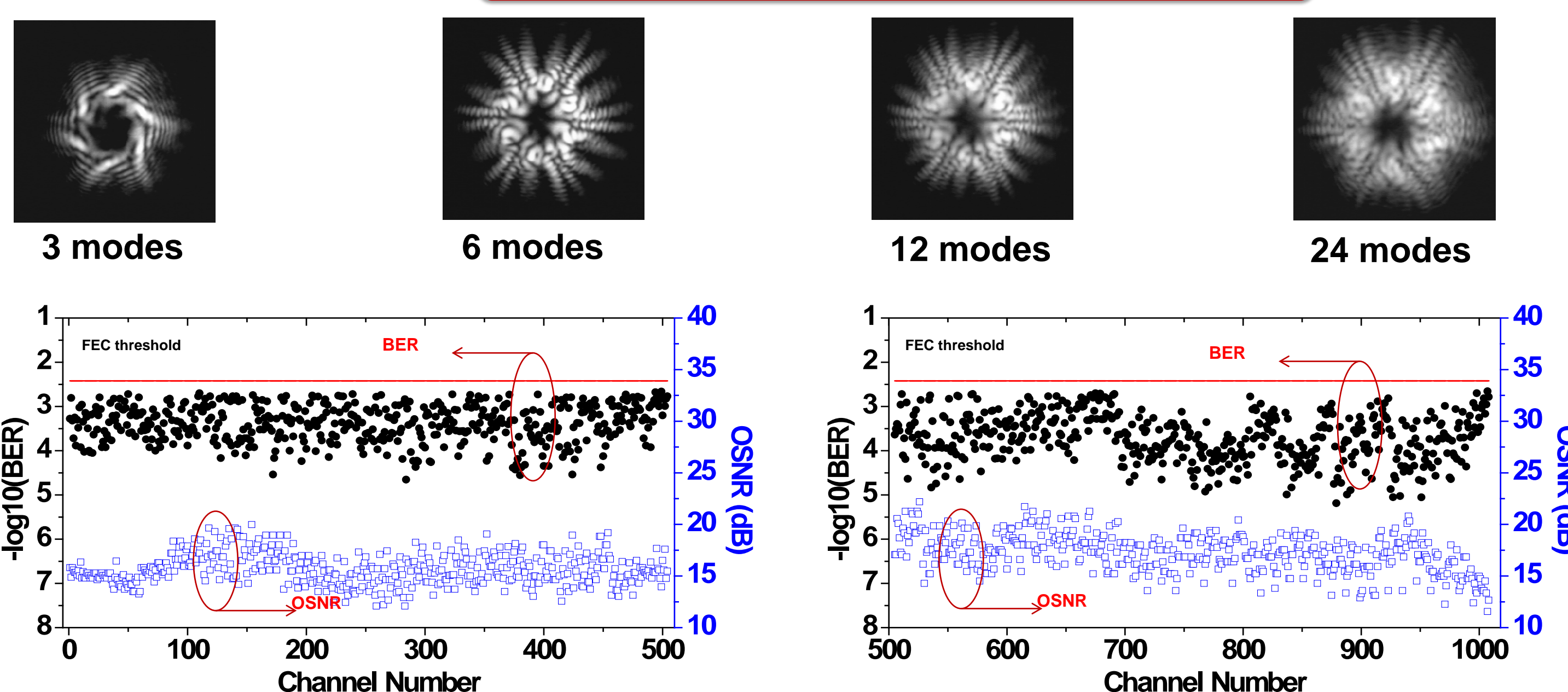
Know about OAM



OAM is a new degree of freedom to improve the spectral efficiency and capacity



Experimental results



Achievements

- 42 wavelengths
- 24 OAM modes
- 1008 independent channels
- 100 Gbit/s QPSK on each channel
- Spectral efficiency $\times 24$
- Total capacity 100.8 Tbit/s

Hao Huang et al., OFC2013, paper OTh4G.5