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

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Problem: Bandwidth demand > Spectral resource

Existing Solutions

OAM multiplexing/demultiplexing

What is OAM

How to generate OAM

How to detect 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 ×4
- Total capacity 100.8 Tbit/s

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