

Two-dimensional optoelectronic tune-switch

A communications switch for switching telecommunications signals from input wavelength division multiplexed (WDM) optical fibers to output WDM optical fibers is disclosed. A two-dimensional optoelectronic switch is also described which uses tunable lasers and optical diffractive elements to switch a matrix of input/output gigabaud channels without blocking. As the channels proceed through the switch they are spatially switched among one another first within rows, then within columns, and then again within rows in the matrix. The two-dimensional optoelectronic tune-switch (2DOTS) can realize the functionality of the nonblocking three-stage Clos switch for input/output ports carrying several gigabit/s data streams.
