

## Effect of optical filtering on the performance of 40 Gbps DCDM systems

### ABSTRACT

The effect of optical filtering on 40 Gbps on-off keying over 2 x 20, 3 x 13.33, 4 x 10, and 7 x 5.714 Gbps duty-cycle division multiplexing (DCDM) is investigated. The system can tolerate down to 30 GHz optical filter bandwidth for 2 users, and 47.5 GHz for 7 users. At this bandwidth, 40 Gbps was successfully transmitted over 464 km and 193 km SSMF using 2 and 7 users, respectively.