



Contribution ID: 181

Type: Poster

MULTI-GIGABIT PHOTONIC TRANSCEIVERS FOR HARSH ENVIRONMENT APPLICATIONS

Tuesday 18 September 2018 17:20 (15 minutes)

Commercial-off-the-shelf photonic components do not satisfy the requirements of typical spacecraft or particle-physics detector applications. In order to reduce costs and schedule risk for insertion of photonic components into these harsh-environment applications, we developed single- and multi-channel ruggedized photonic transceiver modules and active optical cables for aerospace, particle physics detectors and other harsh-environment fiber-optic datalink applications operating at up to 12.5 Gbps per lane.

In this presentation we will review performance characteristics and results of reliability, environmental and radiation tests including gamma, neutron, proton and heavy ions, for these transceiver components.

Summary

Commercial-off-the-shelf photonic components designed for datacenter or industrial applications do not typically satisfy the requirements of typical spacecraft or particle-physics detector applications, which have extremely high specifications for long-term reliability and radiation tolerance. In order to reduce costs and schedule risk for insertion of photonic components into these harsh-environment applications, we developed single- and multi-channel ruggedized photonic transceiver modules and active optical cables for aerospace, particle physics detectors and other harsh-environment fiber-optic datalink applications operating at up to 12.5 Gbps per lane. We then performed reliability and environmental testing to demonstrate that these modules meet or exceed many of the requirements of these applications. In this presentation we will present performance characteristics and results of reliability and environmental and radiation tests including gamma, neutron, proton and heavy ions, for these transceiver components.

Primary authors: LOGAN JR., Ronald T. (Glenair Inc.); BASUITA, Davinder; THOMSON, Ross

Presenter: THOMSON, Ross

Session Classification: Posters

Track Classification: Optoelectronics and Links