Sprint 3

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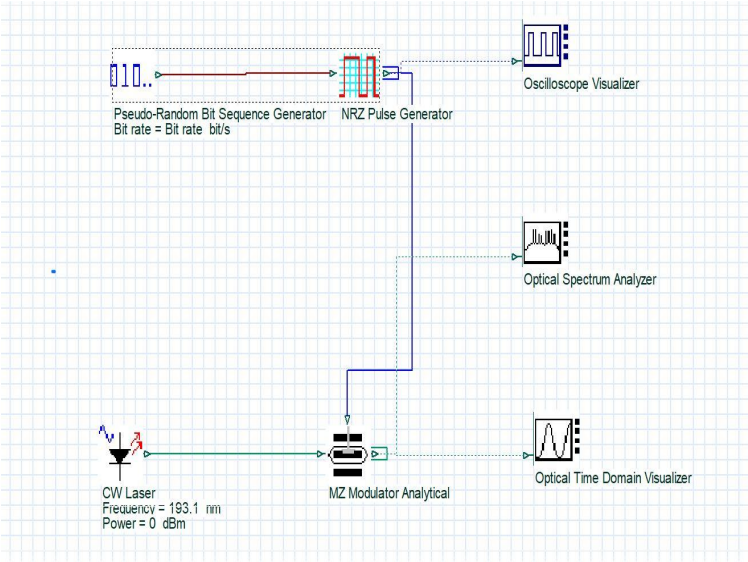
Transmitter

We create a transmitter using an external modulated laser.

MZM(Mach-Zehnder Modulator):

The optical input split into the modulator arms, the phase modulated with two phase shifters driven by electrical signals. Then output the combined modulated optical signals.



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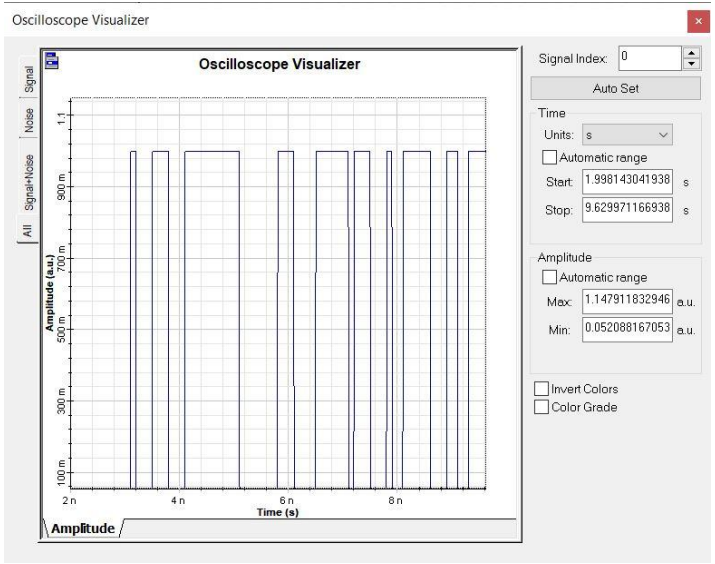
Oscilloscope Visualizer Simulation

Electrical signal in time domain



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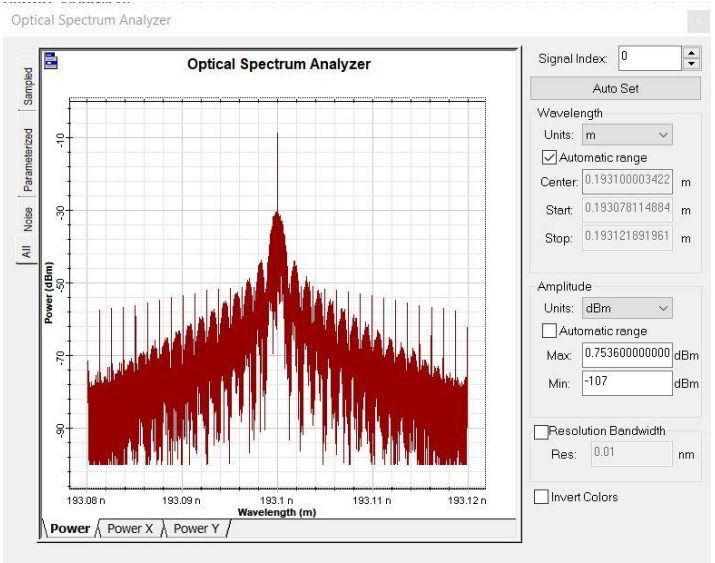
Optical Spectrum Analyzer

Optical signal in frequency domain



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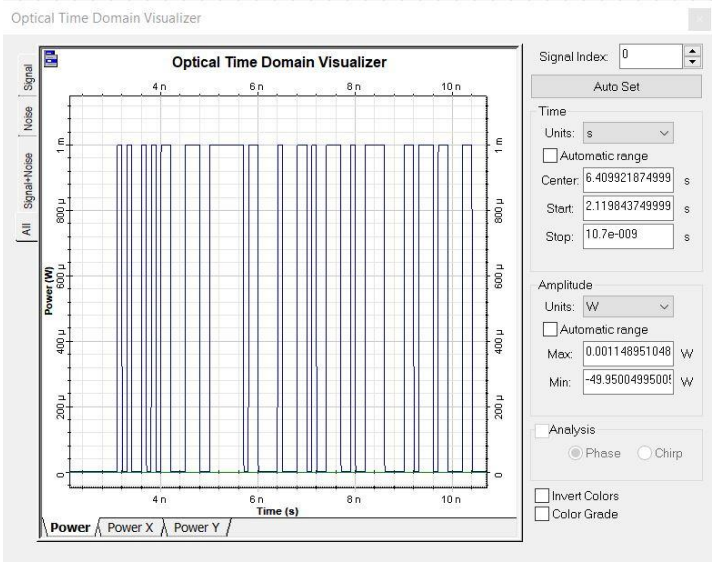
Optical Time Domain visualizer

Optical signal in time domain



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WDM system

Wavelength Division Multiplexing (WDM) is a fiber-optic transmission technique that combine light with different wavelengths (or colors) into one fiber, and apply with the multiplexer to transmit data. Different colors of light can travel on one fiber at the same time, then signals can be transmitted in an optical waveguide at different wavelengths or frequencies on the optical spectrum. As a result, light can transmit more information than electronics.

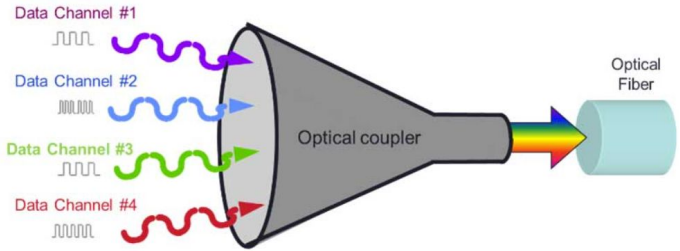

Figure 1: Wavelength Division Multiplexing (VDM)
retrieved from:https://www.ciena.com/insights/what-is/What-Is-WDM.html