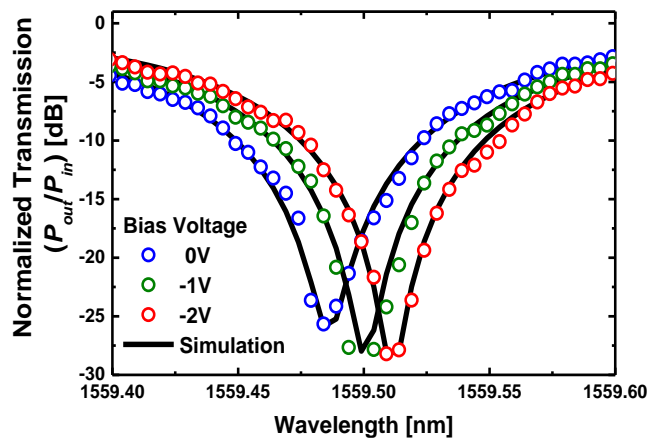


Large-signal Equiv. Circuit Model for Ring Modulator

Will be presented on 2018 OFC

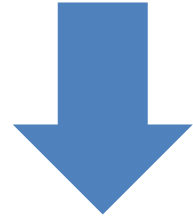
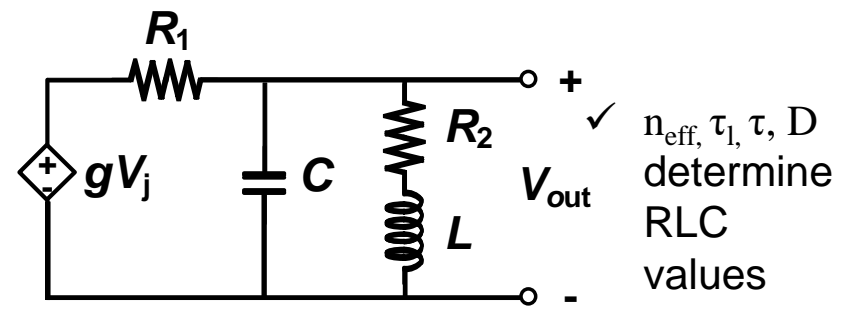
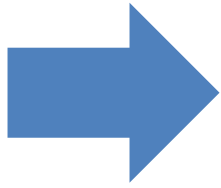
<Measured Transmission Curve>



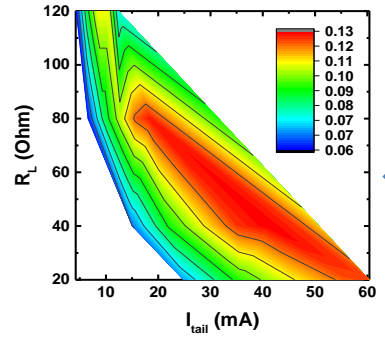
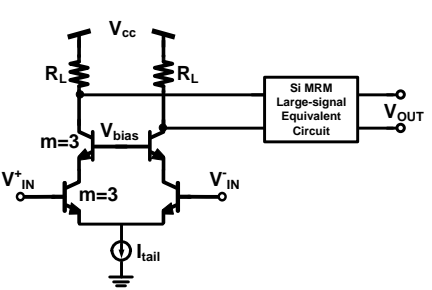
✓ $n_{\text{eff}}, \tau_l, \tau$ extracted

<Small-signal Equivalent Circuit>

+ D
(Detuning)

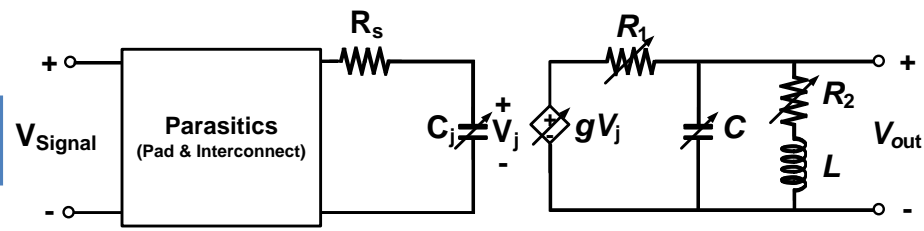


<Large-signal Equivalent Circuit>



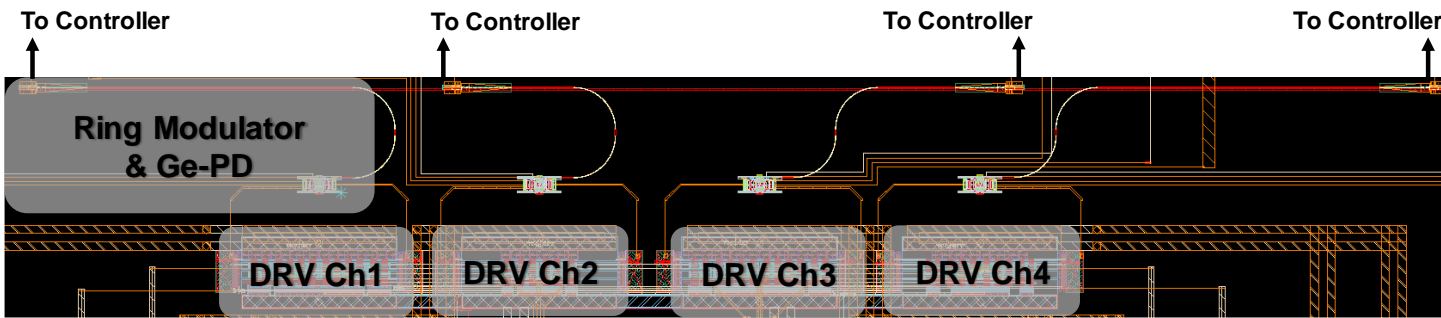
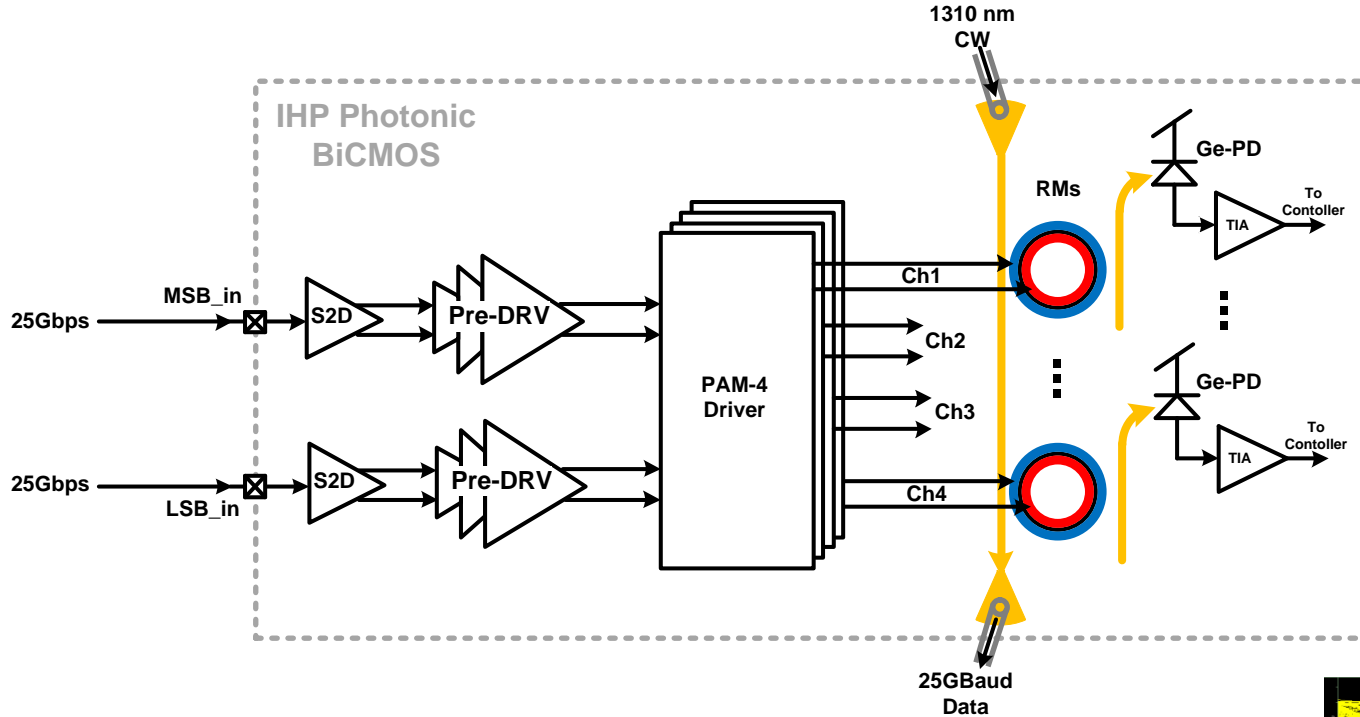
✓ Co-simulation & design optimization

<Large-signal Equivalent Circuit>

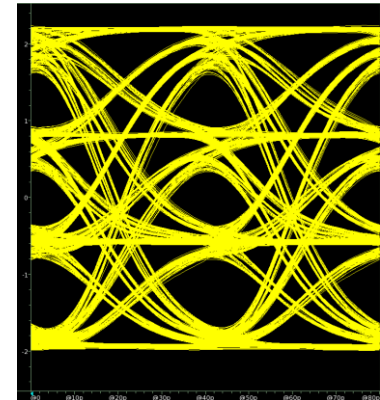


✓ Non-linear voltage-dependent elements achieved with SPICE model

Photonic BiCMOS PAM-4 Transmitter



<Layout of PAM-4 Tx>



<50-Gbps Simulated Result>

Optical PAM-4 Transmitter with RLM Calibration

