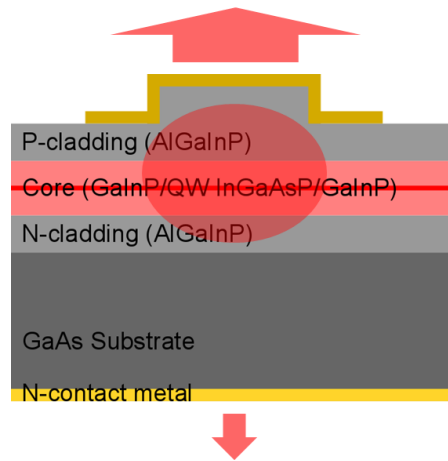
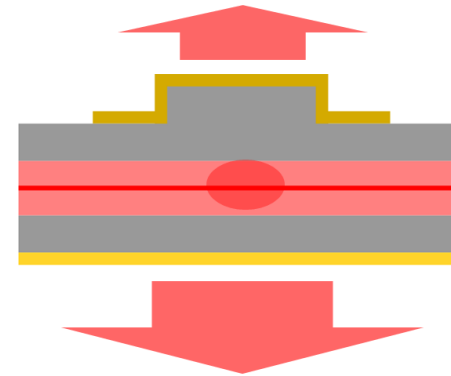


High Power Laser Diodes

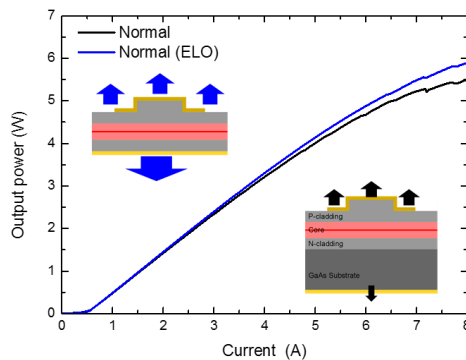
- High power laser diode (HPLD) with an improved heat-sinking structure
- Improved heat-sinking → Lower temperature → Higher LD performances



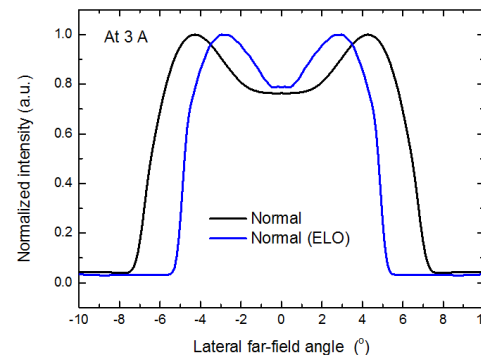
<Conventional HPLD>



<Proposed HPLD>



<L-I characteristics>

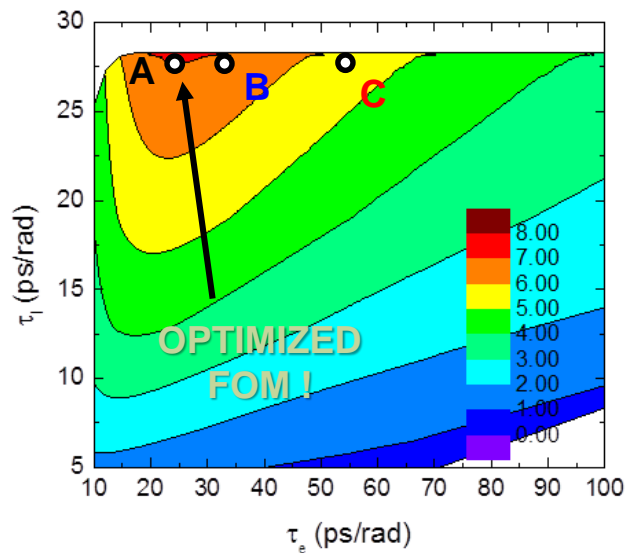
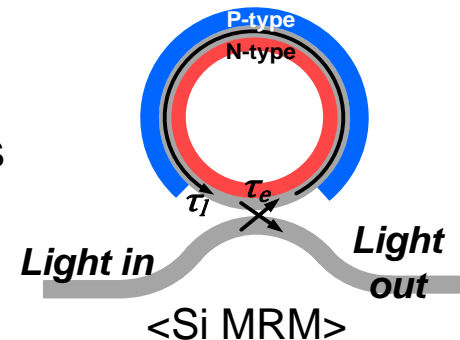


<Lateral far-field profile>

Improved performances !
Conventional (Black)
to Proposed (Blue) !

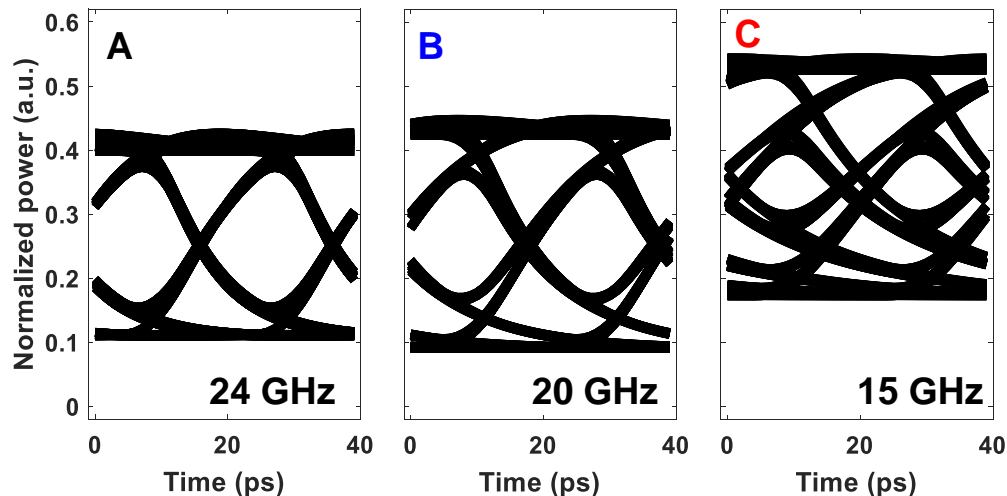
Optimization of Si MRMs

- Optimizing Si MRM performance for 50-Gbps modulation
- Using modeling parameters (τ_l , τ_e) for universal relationships



<Modeling parameters vs. FOM>

OPTIMIZED EYE DIAGRAM !



<Eye diagrams for 50-Gbps modulation speed>

Figure of merit (FOM) :

Product of optical modulation amplitude and 3-dB bandwidth