

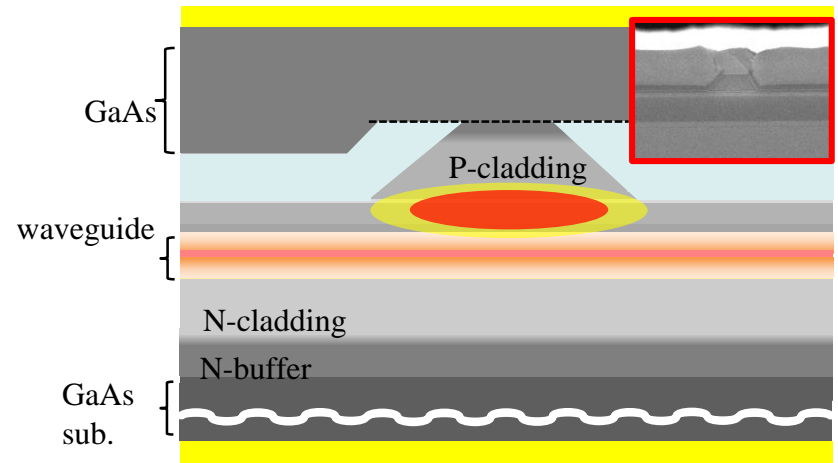
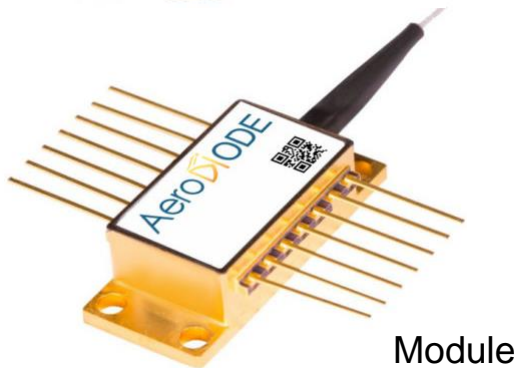
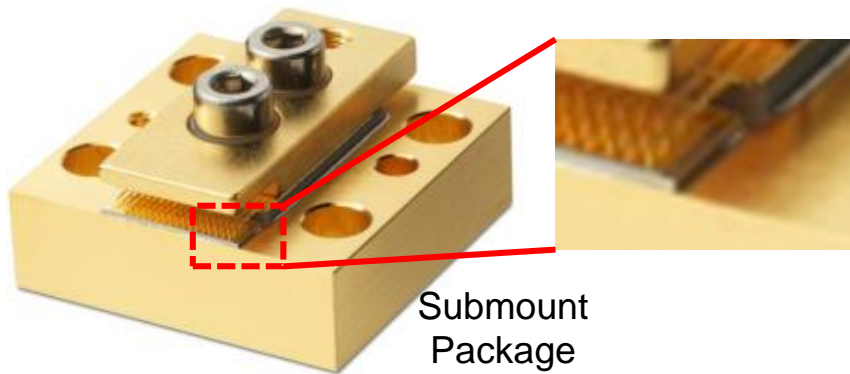
The background features a large, light blue watermark of the Yonsei University logo. The logo is circular with the text 'YONSEI UNIVERSITY' around the top and '1885' at the bottom. In the center is a shield with a book, a lamp, and a central circle.

2023 Workshop

Jung-Tack Yang

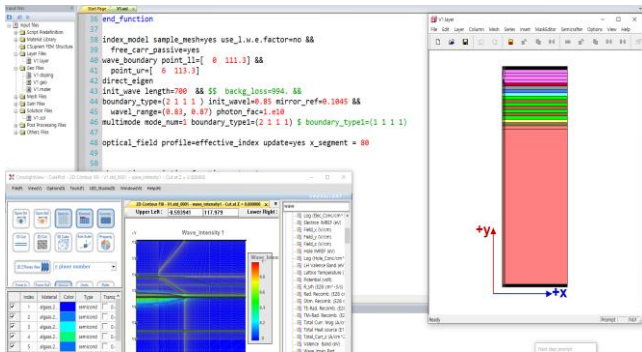
High-Speed Circuits & Systems Lab.
Department of Electrical and Electronic Engineering
Yonsei University

Edge Emitting Laser Diodes

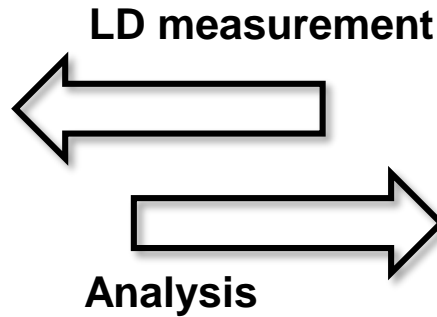


- III – V compound semiconductor
- Small size
- Mass production
- Power convergence efficiency
- **Low beam quality**

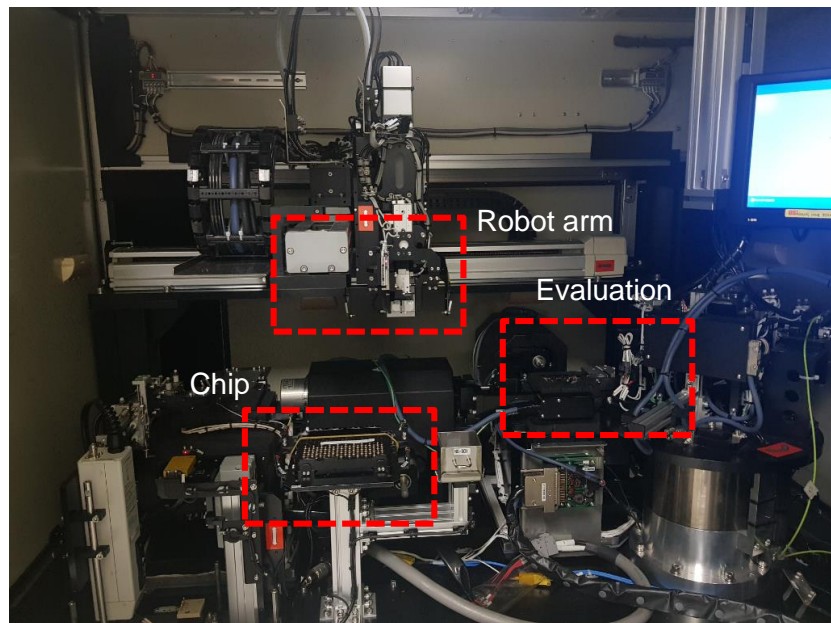
Previous Work



Yonsei University

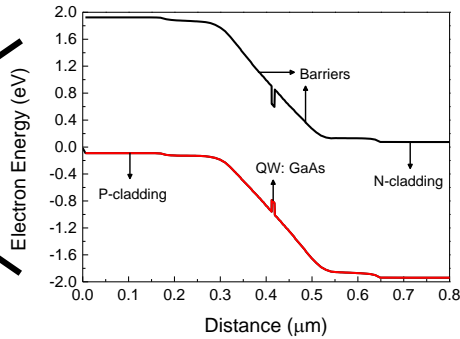
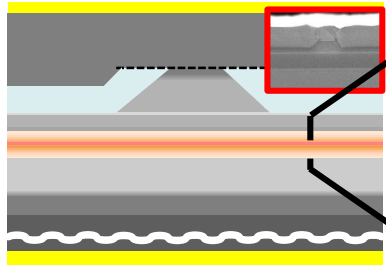


QSI

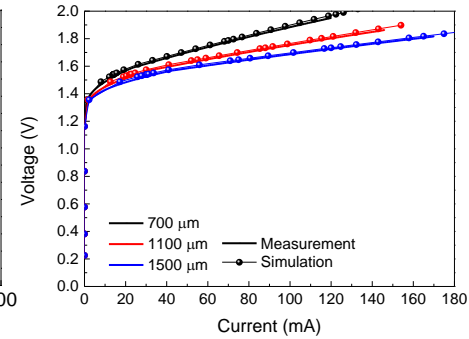
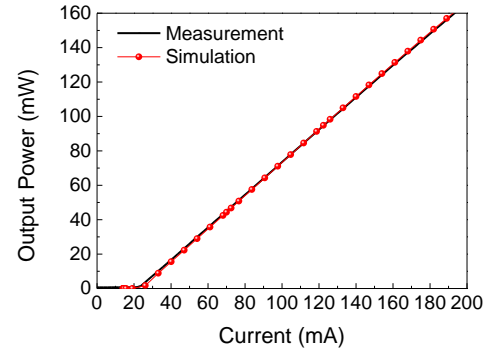


- Material: InGaAsP, AlGaAs
- Wavelength: 970, 850 nm
- Characteristic Analysis
 - L-I & I-V
 - Field pattern
 - Thermal analysis
- Issue
 - Thermal blooming
 - Catastrophic optical damage (COD)
 - Single & Multi mode analysis
 - Kink, etc

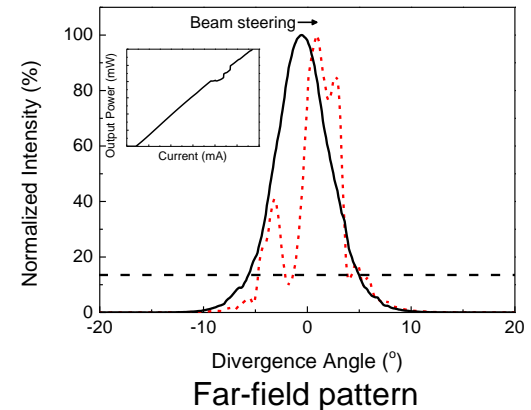
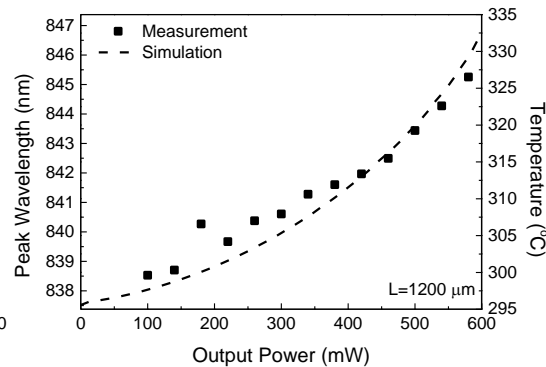
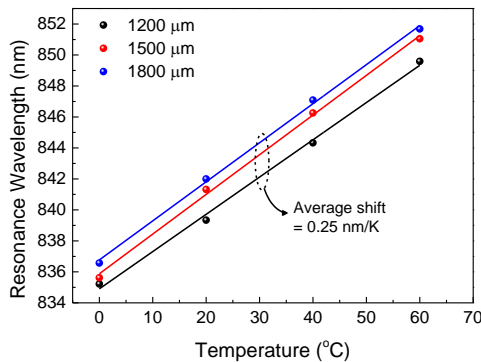
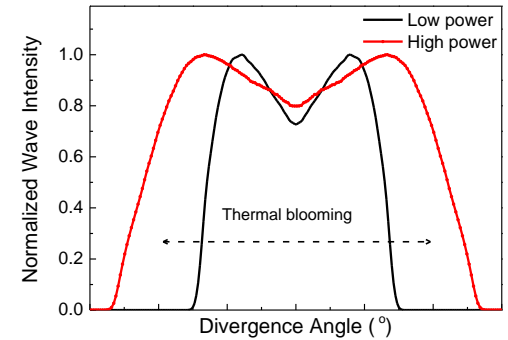
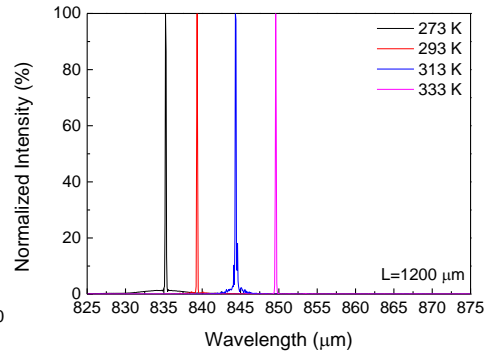
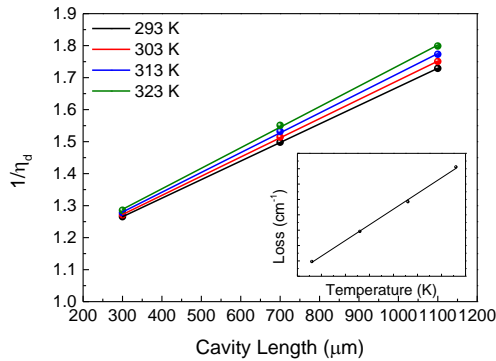
Characteristic Analysis



Structure



L-I & I-V characteristics



Loss and thermal characteristics

Far-field pattern

Design Parameter Extraction with Deep Learning

