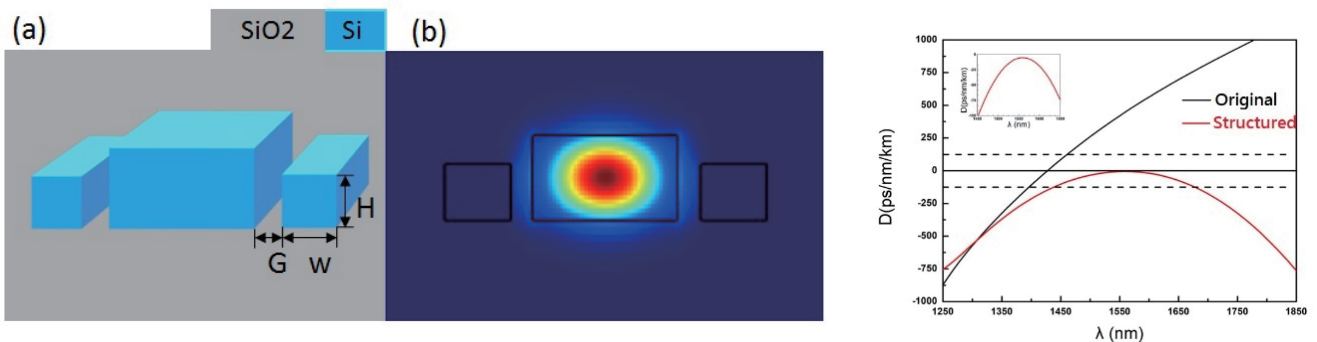


矽光子與積體光學

我們過去幾年來曾針對 free space to plasmonic waveguide coupler、plasmonic micro-ring resonator、vertical plasmonic resonance coupler 等幾種不同類型的新穎光波導元件進行過設計與模擬，都有很好的成果。近幾年來我們的研究重點也包括 Silicon Photonics，針對 Silicon Photonics 主被動元件也都已有很好的研究成果，包括設計出“Sub-wavelength channel waveguide with near-zero flattened dispersion at 1.55 μm on Silicon”以及“Apodized 2D slanted grating coupler for efficient mode multiplexing between few mode fiber and SOI chip”等之新穎矽光子元件。



[Sample publications]

1. Y. Liu, Y. Lai, and K. Chang, “Plasmonic coupler for silicon-based micro-slabs to plasmonic nano-gap waveguide mode conversion enhancement,” *OSA/IEEE Journal of Lightwave Technology*, 31 (11), 1708-1712, 2013.
2. Y.-J. Hsu, B. -H. Cheng, Y. Lai, D. -P. Tsai, “Classical analog of electromagnetically induced transparency in the visible range with ultra-compact plasmonic micro-ring resonators,” *IEEE Journal of Selected Topics in Quantum Electronics*, 21(4), 4600506, 2015.
3. Y.-J. Hsu, Y. Lai, “Vertical plasmonic resonance coupler,” *Optics Express*, 23(1), 292-300, 2015.
4. Y.-T. Lai, Y.-J. Hsu, H.-M. Kuo, and Y. Lai, “Sub-wavelength channel waveguide with near-zero flattened dispersion at 1.55 μm on Silicon,” presented at CLEO 2020.
5. H.-M. Kuo, Y.-J. Hsu, C.-C. Chang, Y. Lai, “Apodized 2D slanted grating coupler for efficient mode multiplexing between few mode fiber and SOI chip,” presented at CLEO 2020.