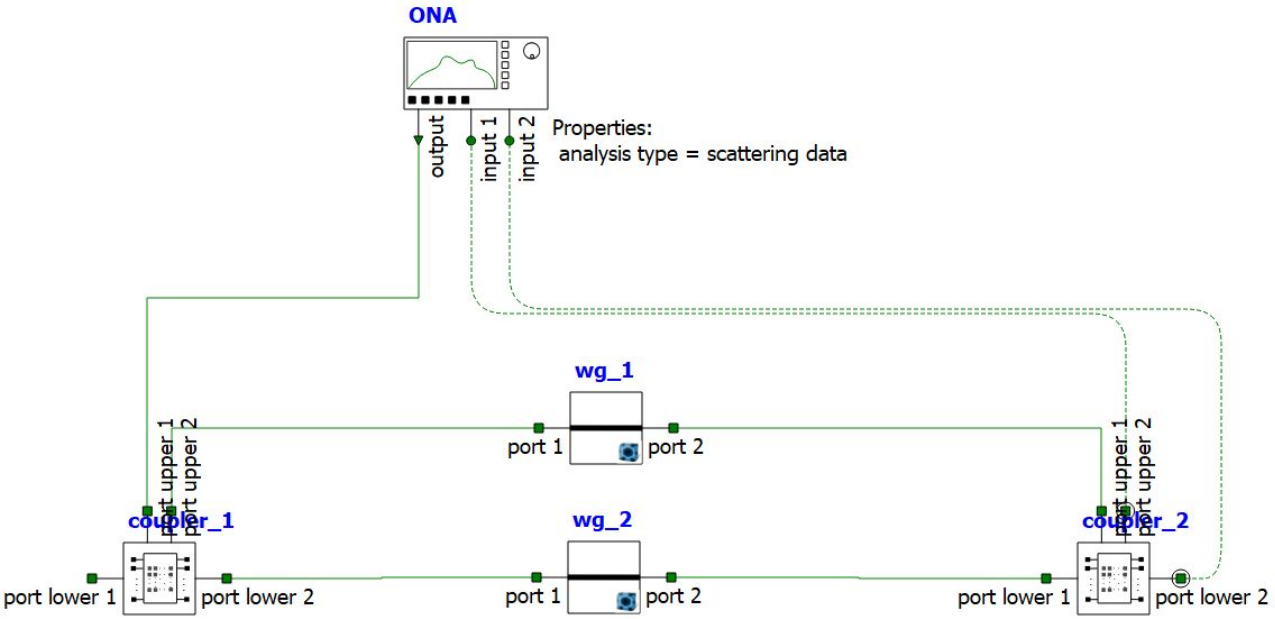
Interferômetro de Mach-Zehnder

Aluno: Luiz Felipe Barros Alves

Esquemático utilizado para simulação no interconnect



Atividades desenvolvidas

Simulação Mode FDE

Guia de onda reto (50 um): 450x220 nm

Simulação FDTD

Acoplador direcional (50/50): 450x220 nm

Extração de parâmetros

Índice efetivo e índice de grupo (neff + ng);

Parâmetros S.

Simulação caso ideal

Curva de transmissão do MZI (FSR(λ) = 1, 10 e 20 nm);

Curva de FSR(λ) x wavelength.

Simulação PDK SiePIC

Curva de transmissão do MZI (FSR(λ) = 1, 10 e 20 nm);

Curva de FSR(λ) x wavelength.

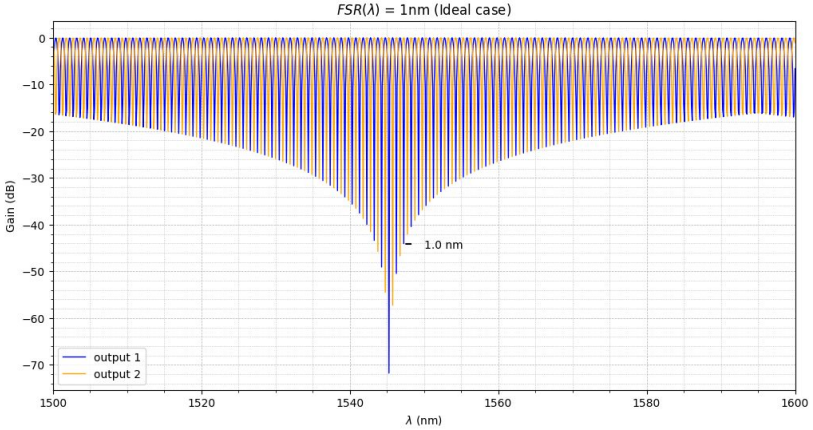
Simulação caso real

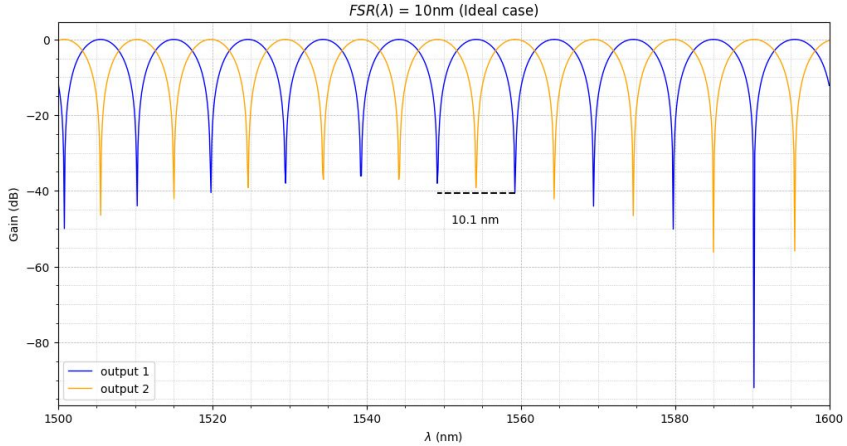
Curva de transmissão do MZI (FSR(λ) = 1, 10 e 20 nm);

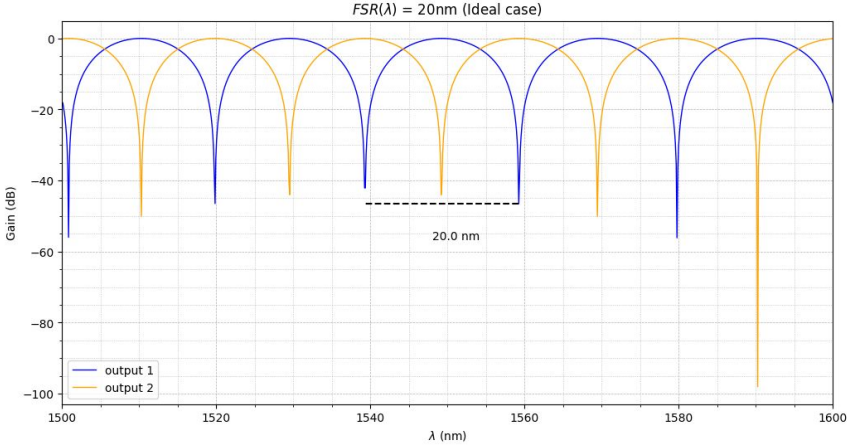
Curva de FSR(λ) x wavelength.

Resultados

- Caso ideal:

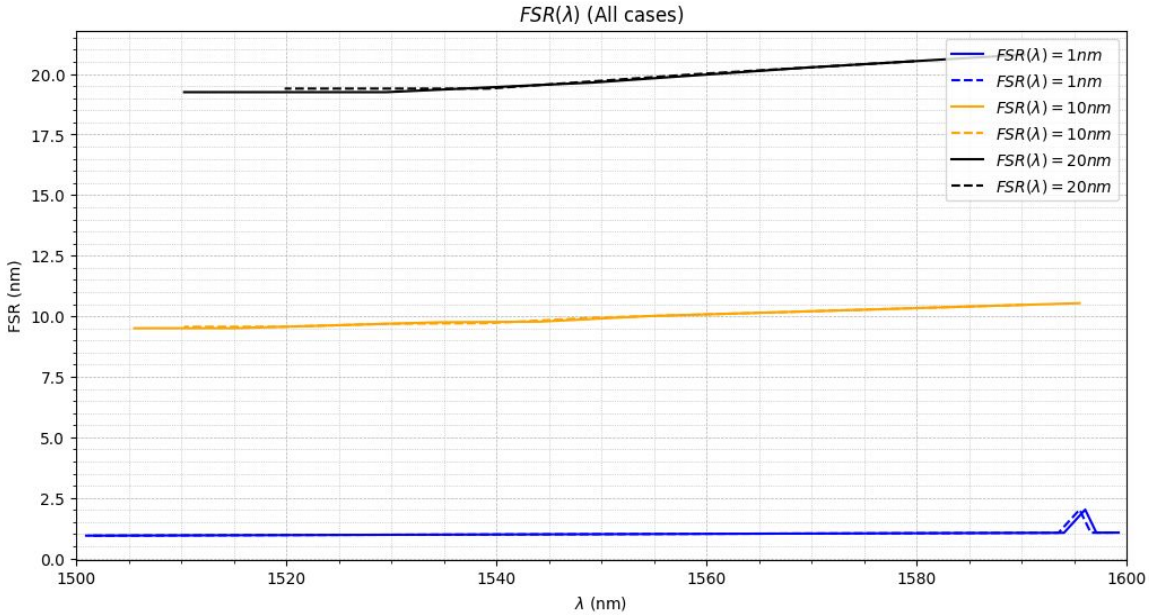






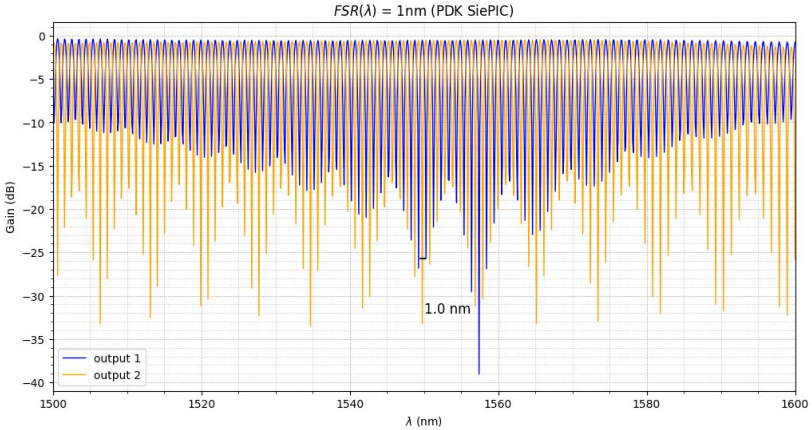
Resultados

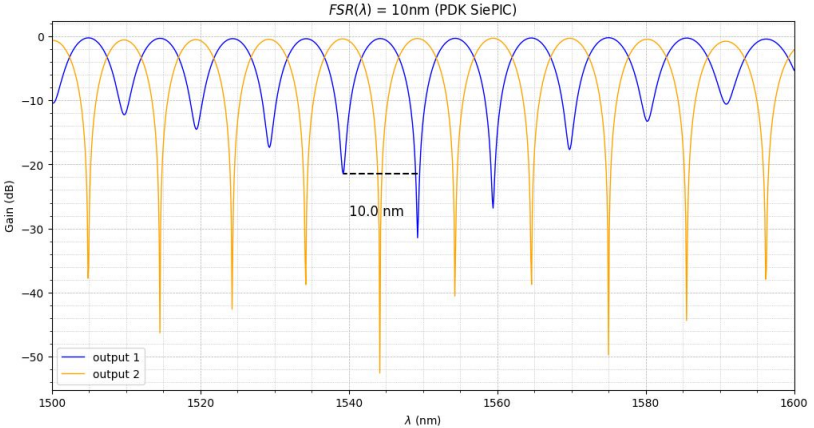
- Caso ideal:

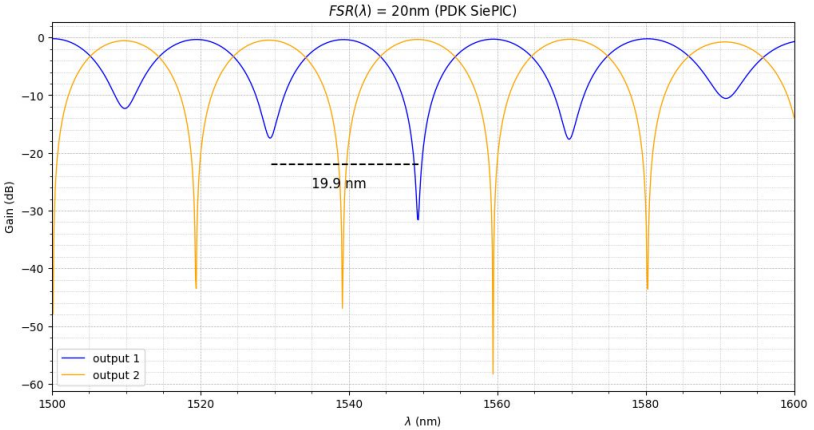


Resultados

- PDK SiePIC:

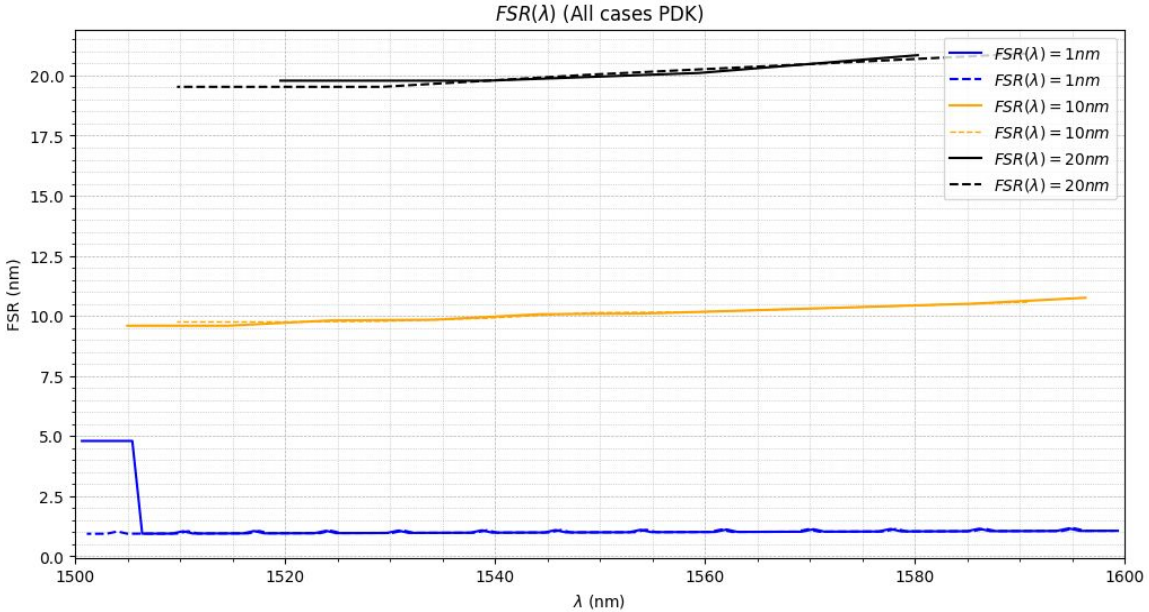






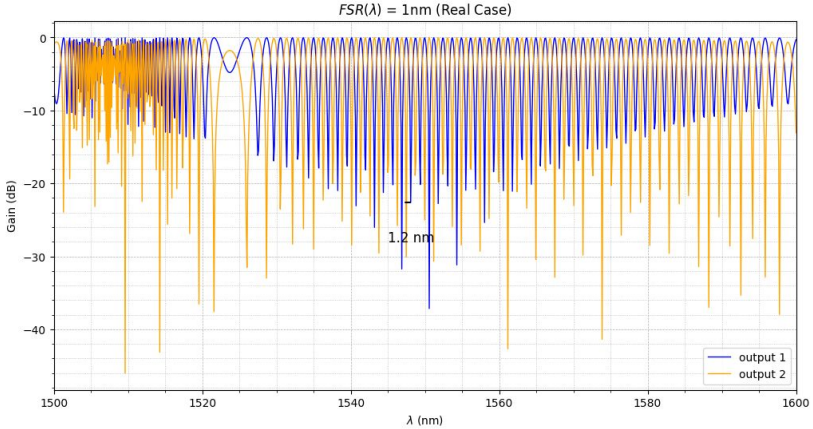
Resultados

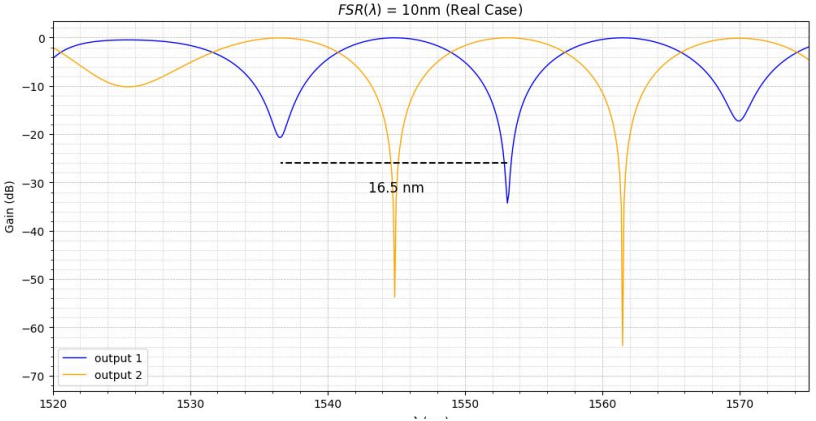
- PDK SiePIC:

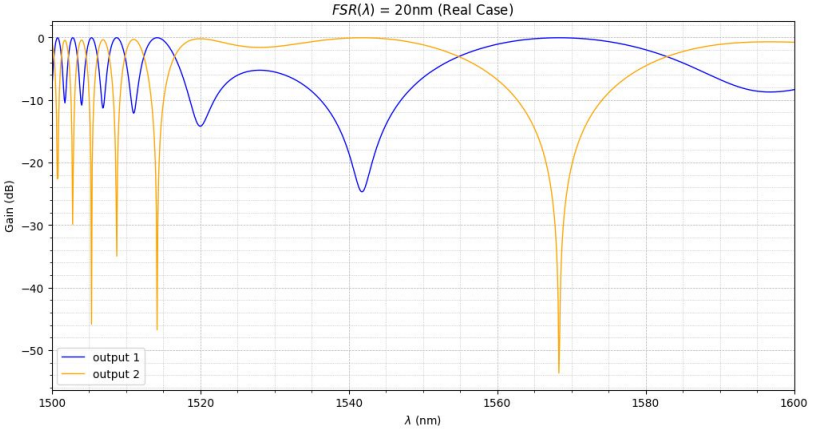


Resultados

- Caso real:

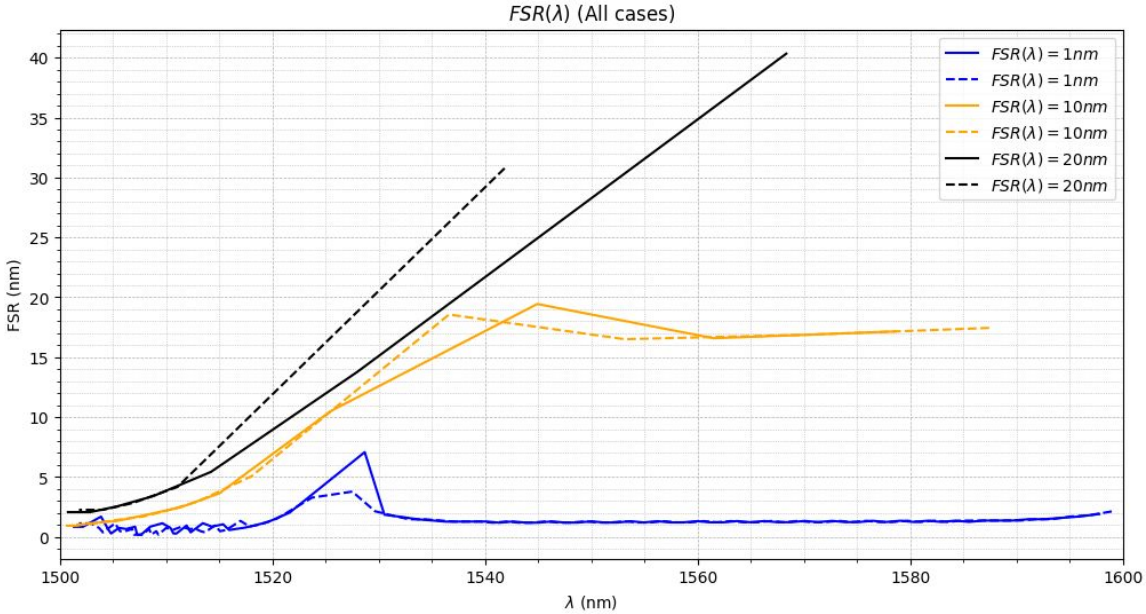






Resultados

- Caso real:



Resultados

- Comparação ideal, real e PDK: