DESIGN
90° OPTICAL HYBRID

SEMANA 1

Analise da referencia

Design dos componentes

Esse modelo de hibrida possui 3 componentes basicos

- 3 - MMI 2X2 (Modelo apresentadono trabalho base)
- 1 - Y-Branch (Modelo apresentado em:
  A compact and low loss Y-junction for submicron silicon waveguide)
- 4 - 90º Bend (Guia padrao de 4 um de raio)

Design dos componentes

Estudo de convergencia

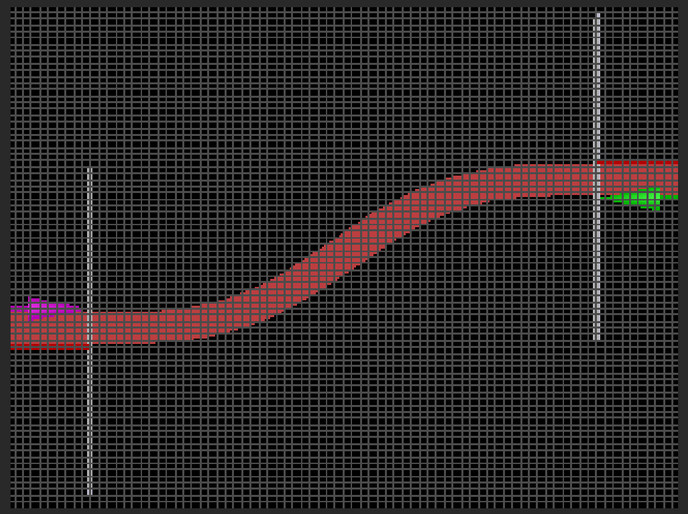
Como nessa etapa não temos como objetivo otimizar o dispositivo, o tempo de simulação não era um fator tão importante, logo, não foi feita analise de convergencia de precisão, todos os dispositivos foram simulados com a maior precisão possível (non-variant mesh 8)

Design dos componentes

Design Buried

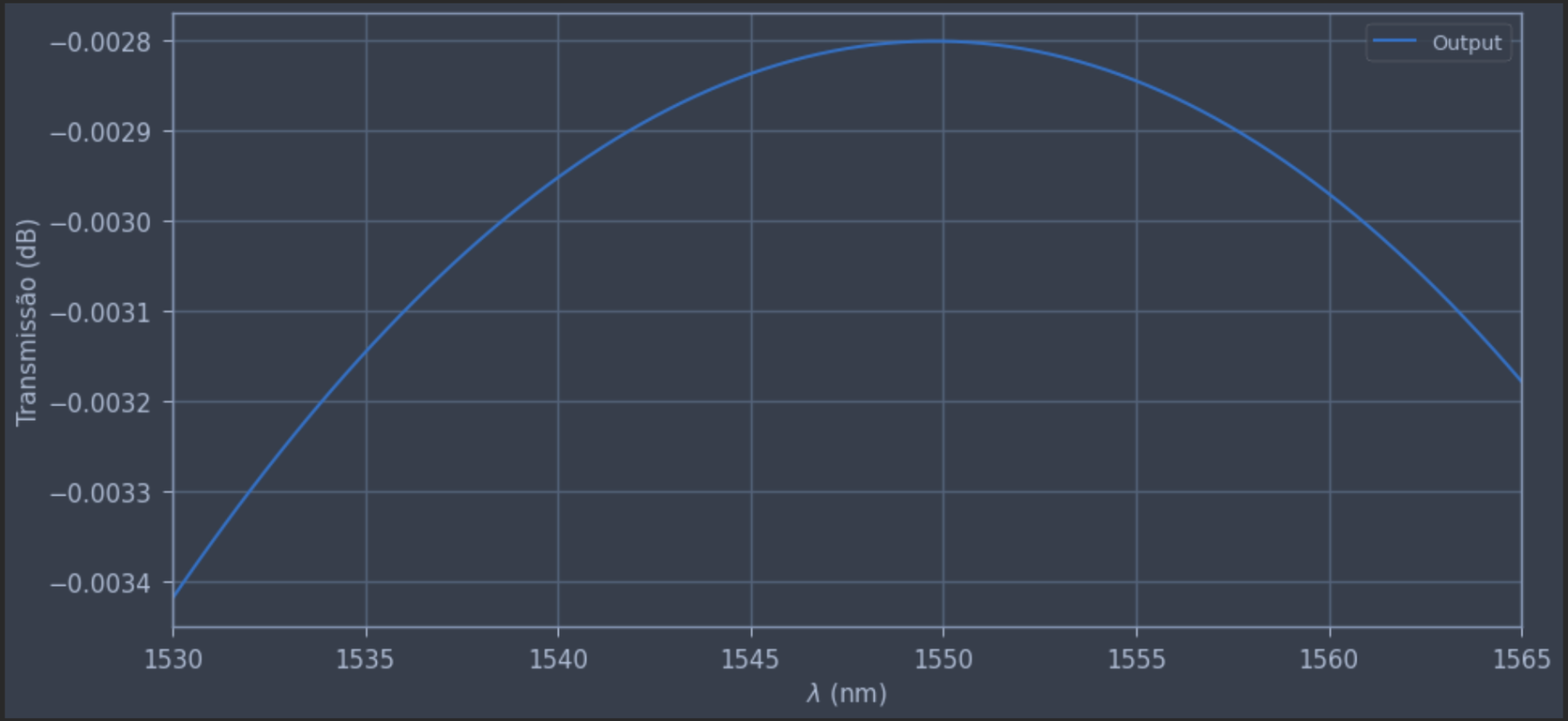
Design dos componentes

Adição do S-bend no MMI



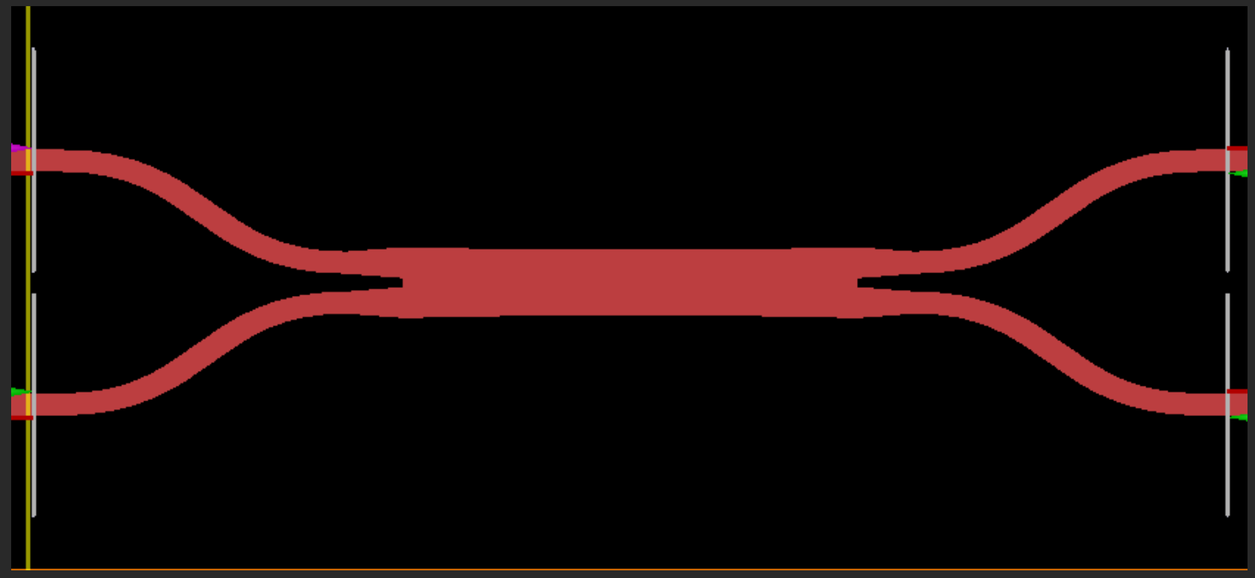
Design dos componentes

Resultados



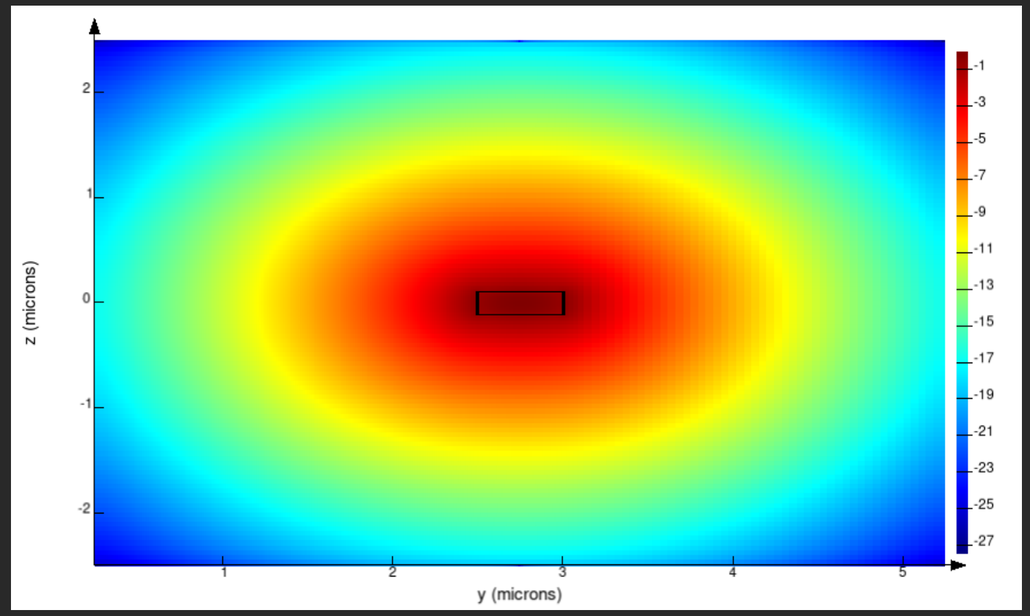
Design dos componentes

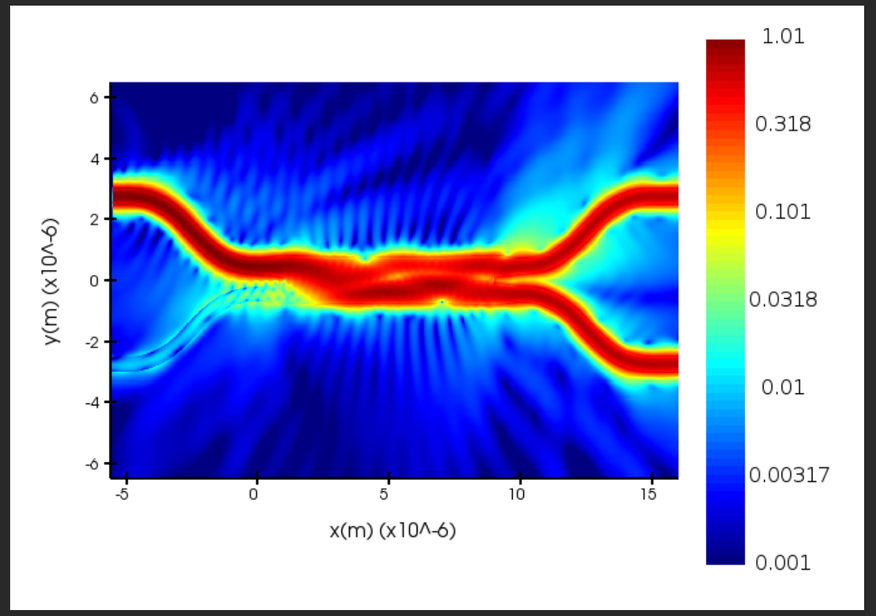
Design do MMI



Design dos componentes

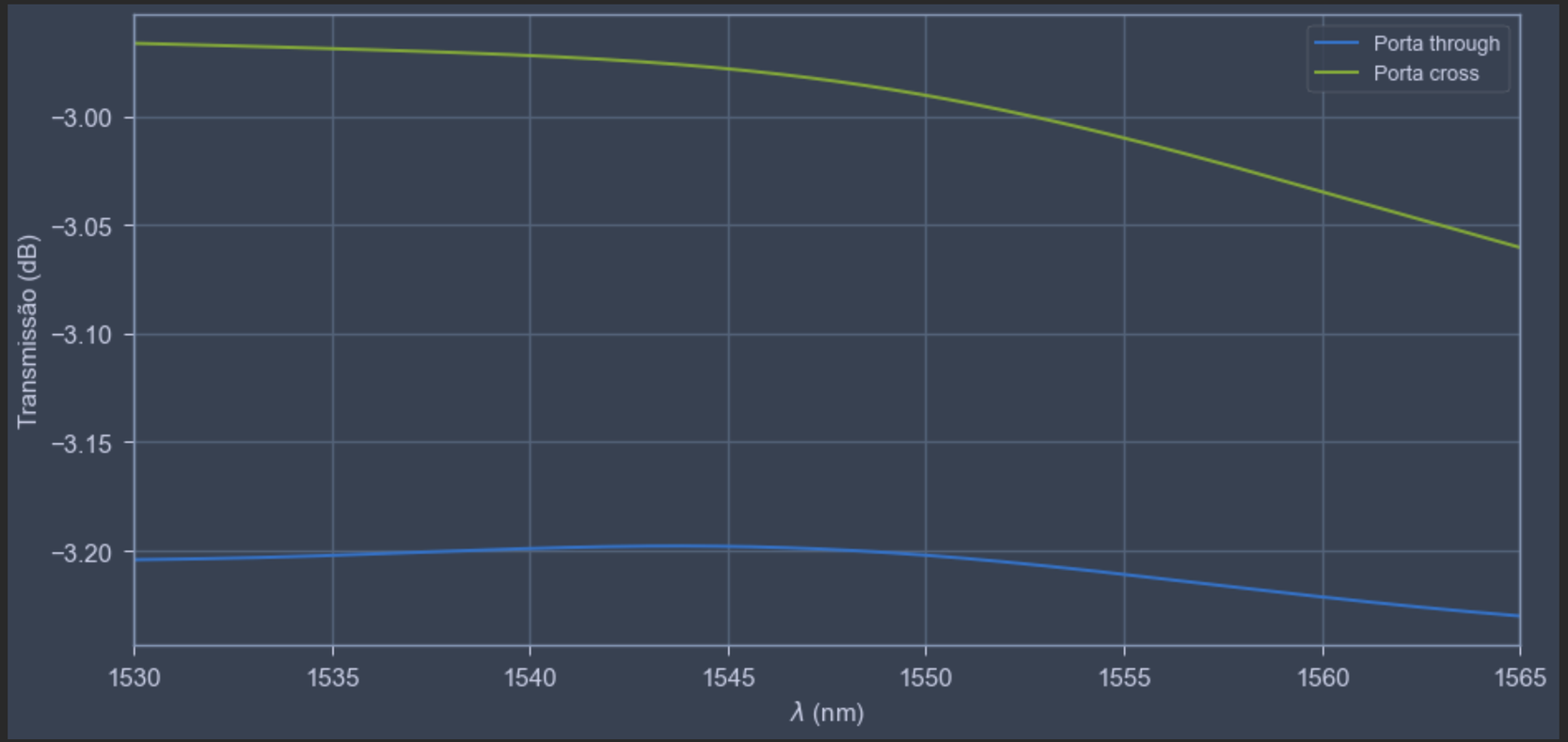
Analise do campo na simulação





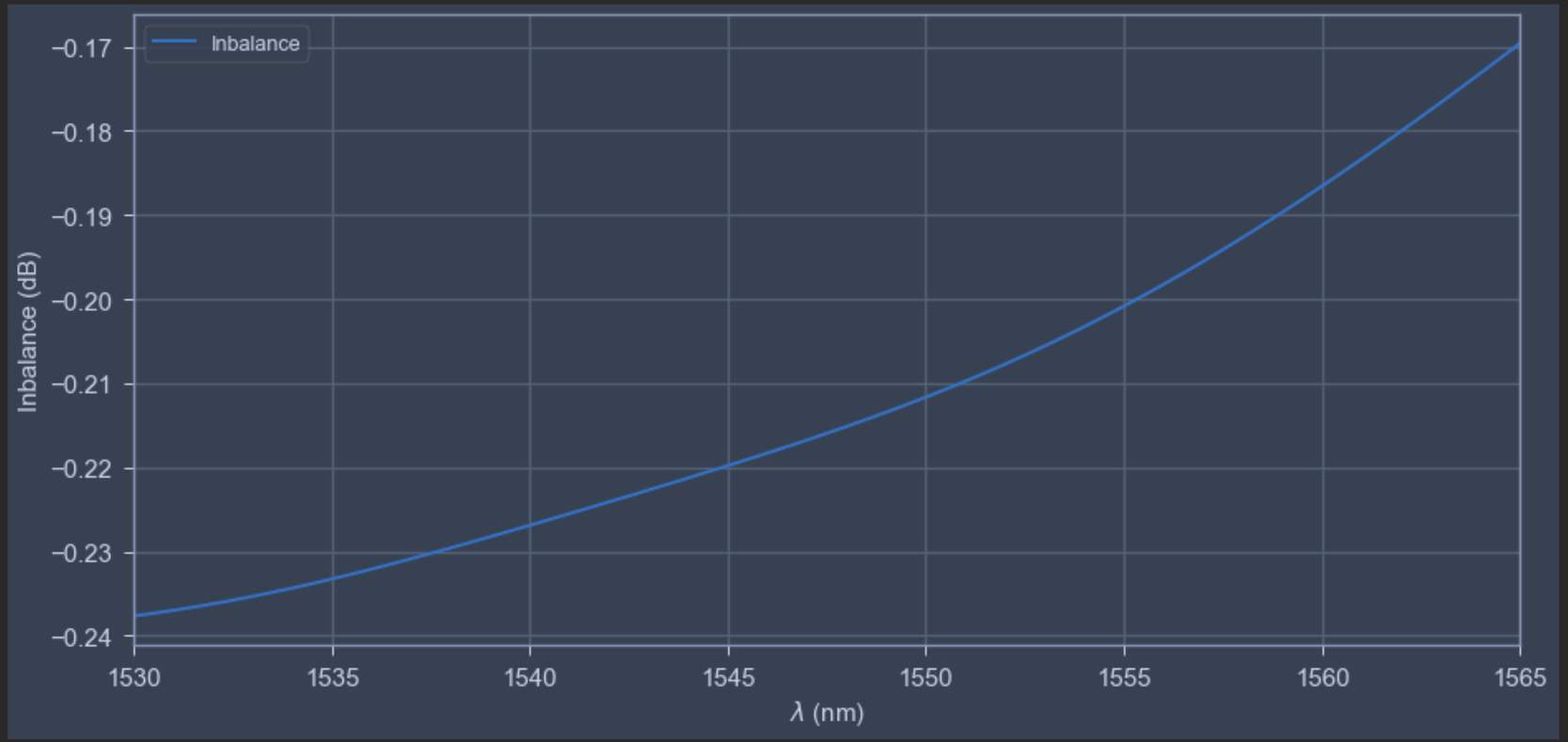
Design dos componentes

Resultados



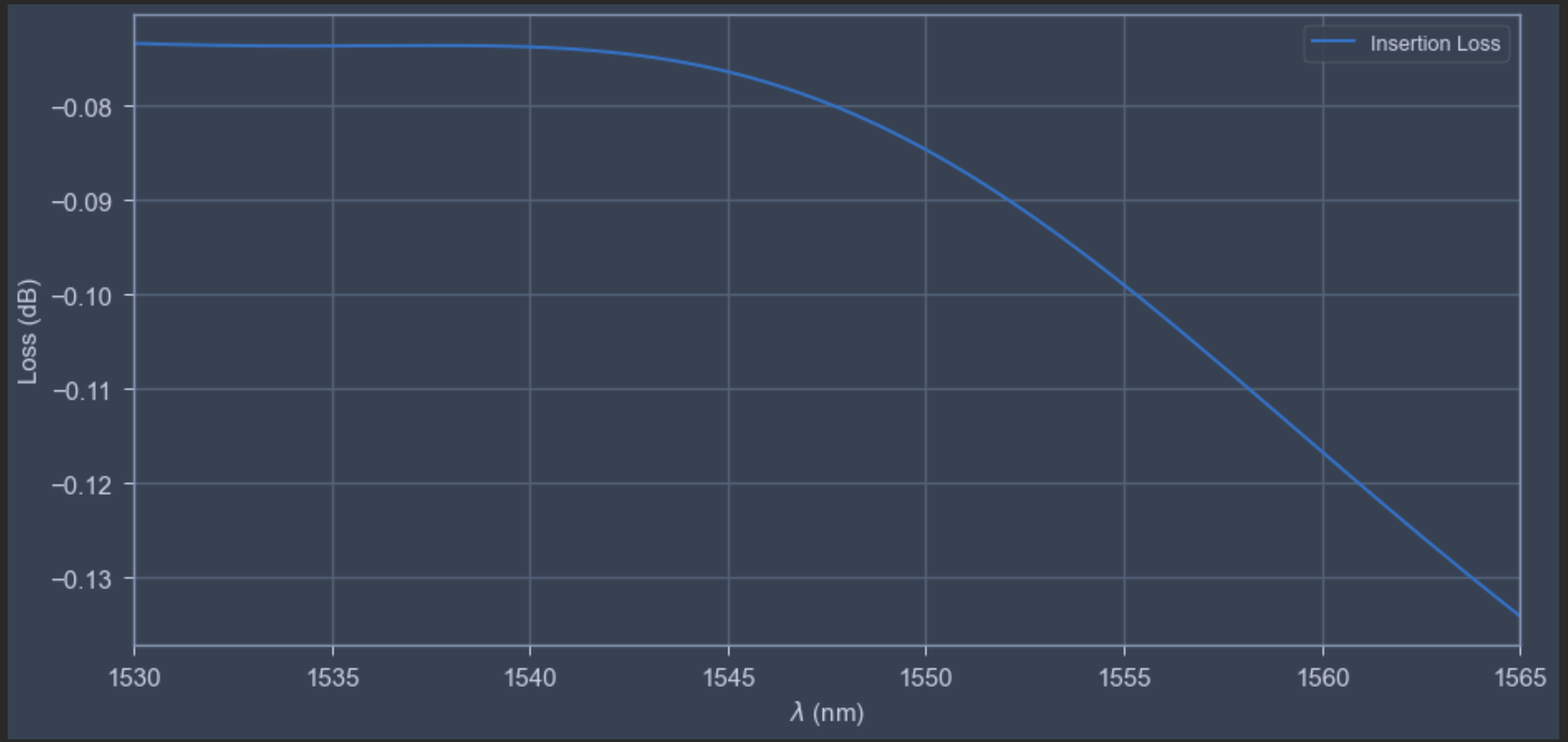
Design dos componentes

Resultados



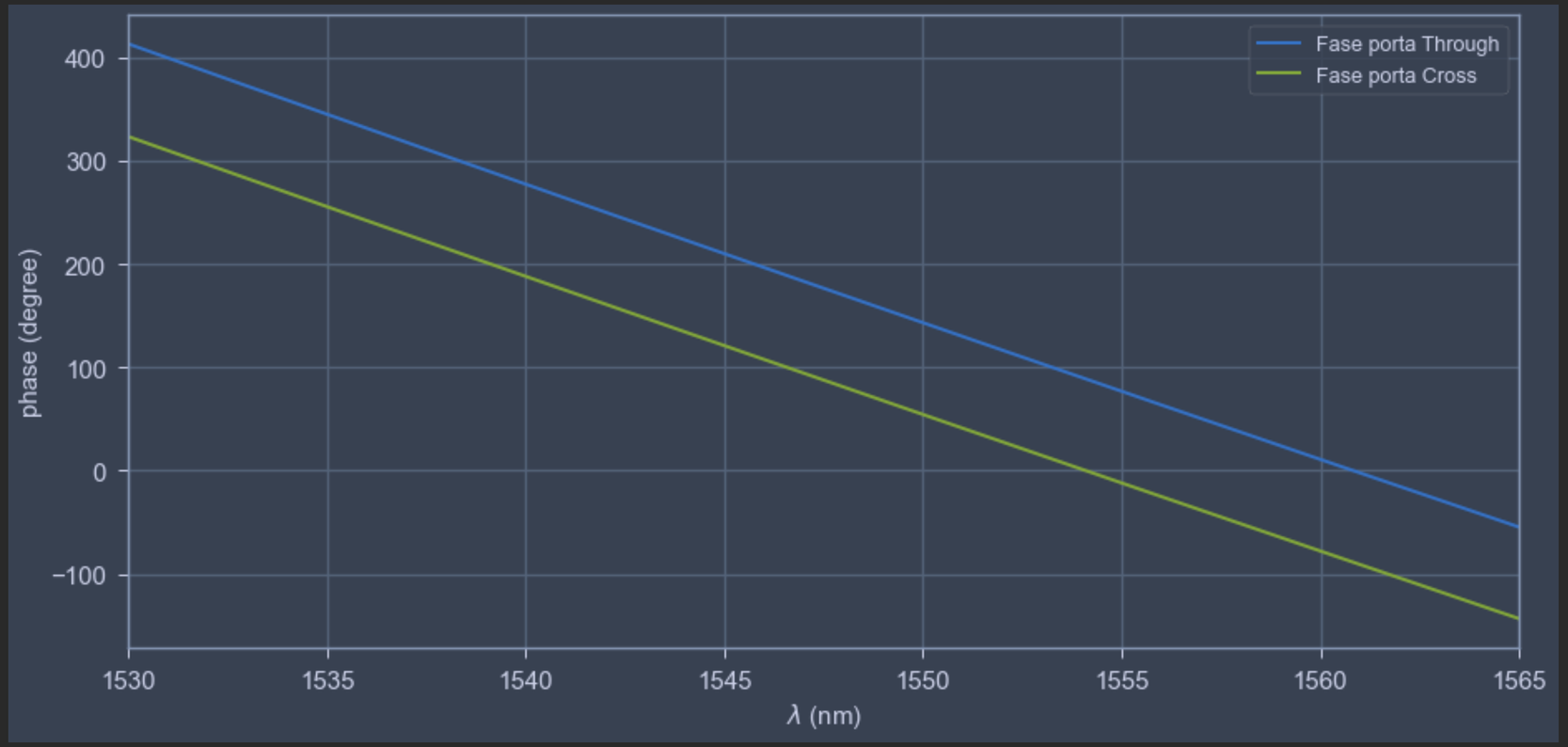
Design dos componentes

Resultados



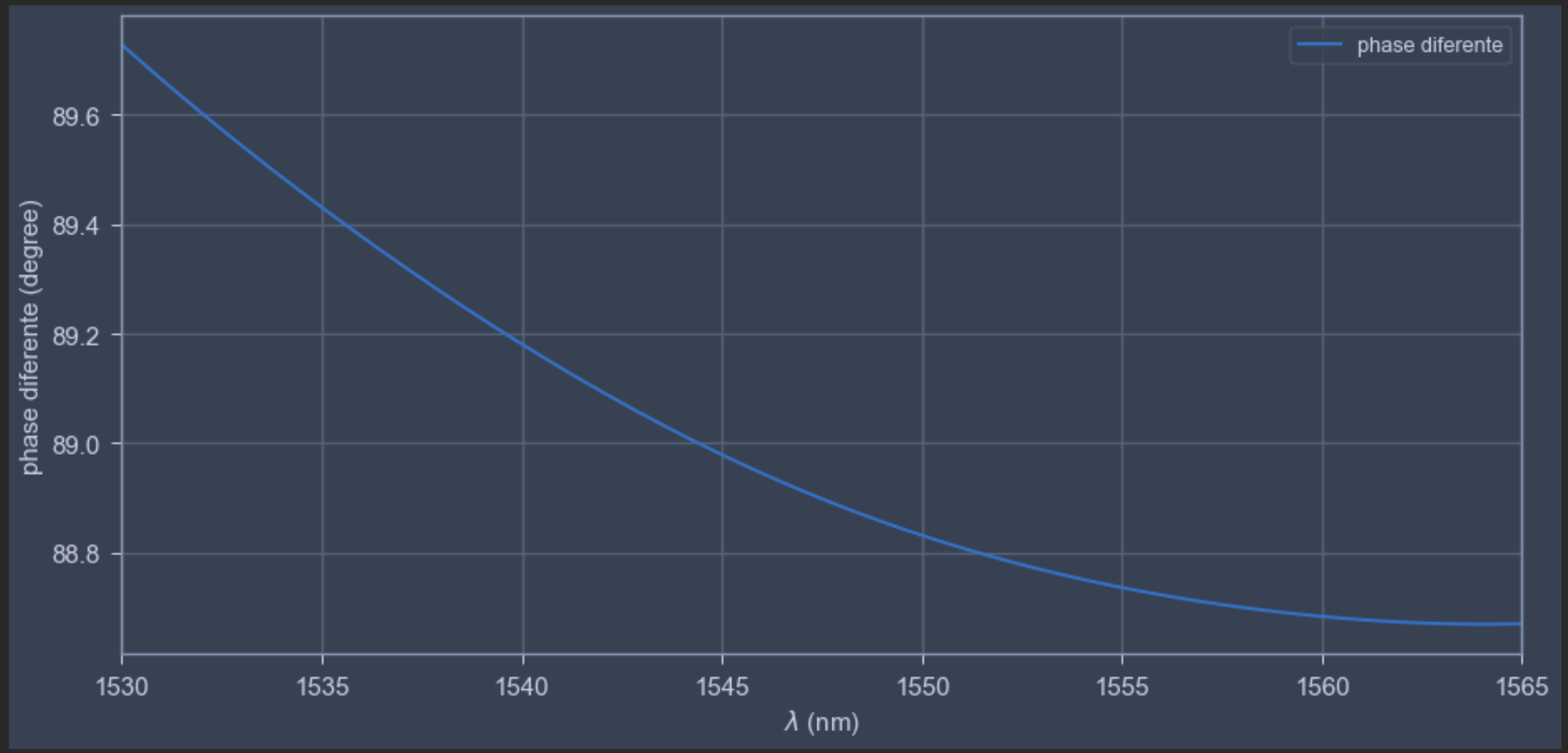
Design dos componentes

Resultados



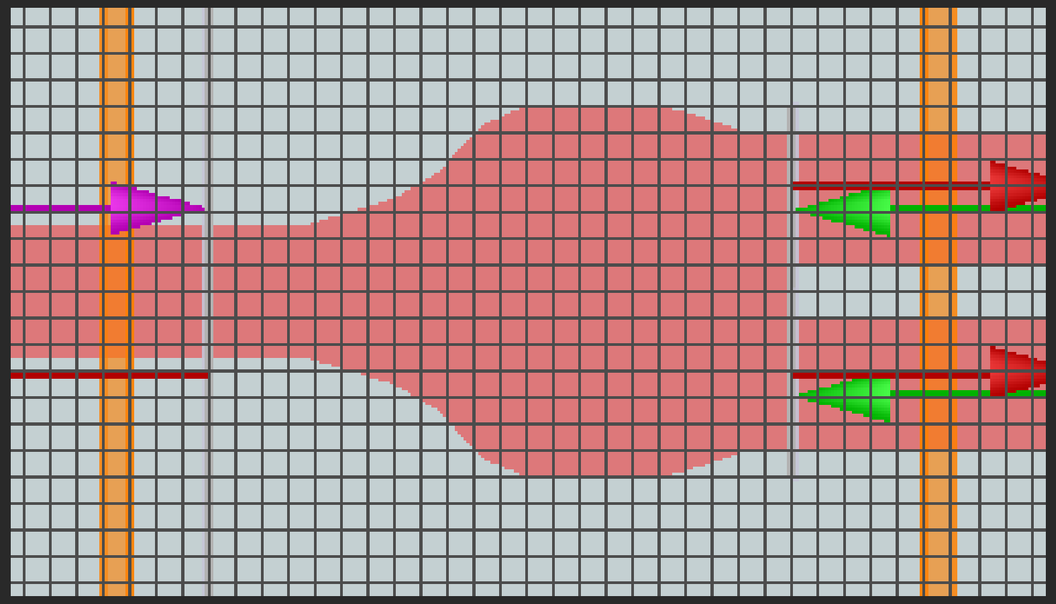
Design dos componentes

Resultados



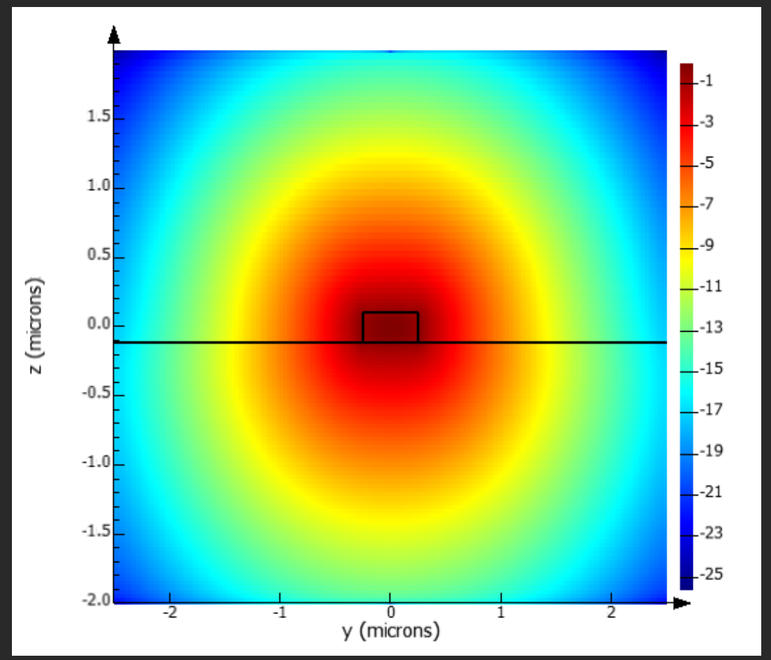
Design dos componentes

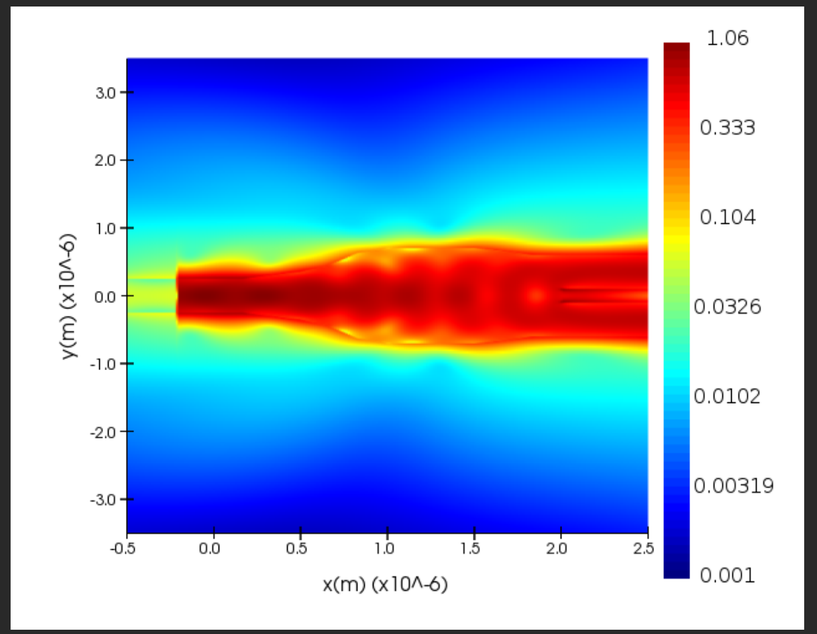
Design do Ybranch



Design dos componentes

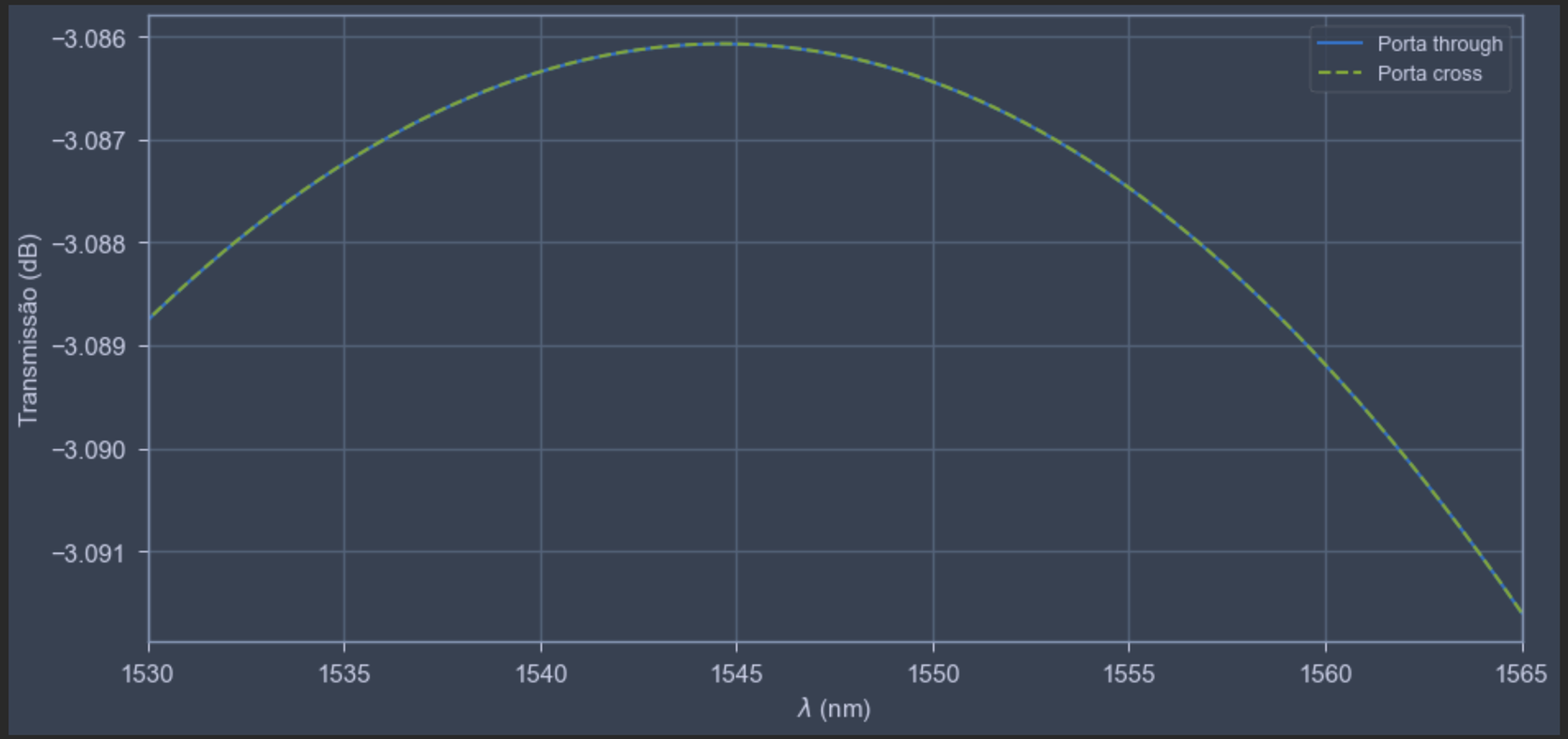
Design do Ybranch





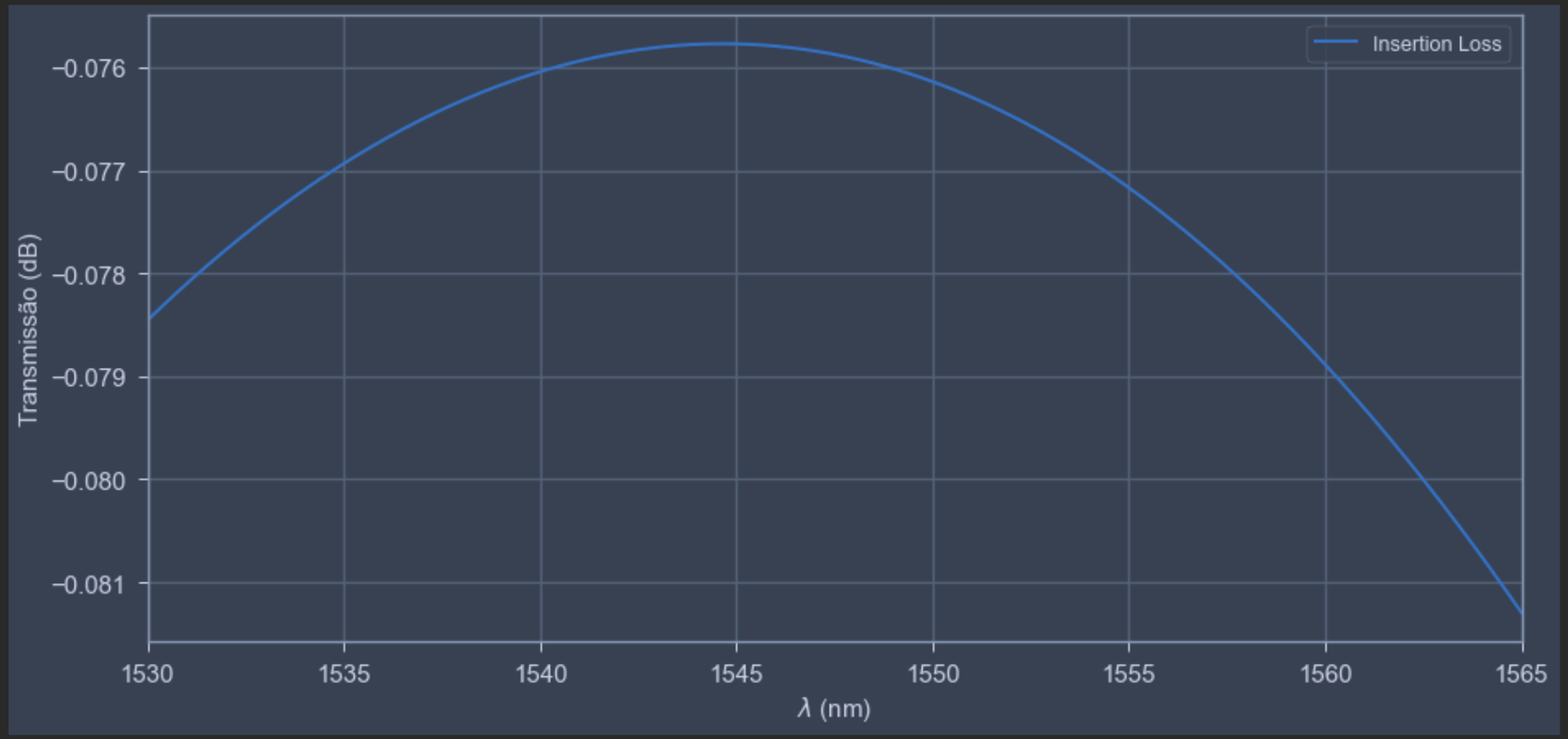
Design dos componentes

Resultados



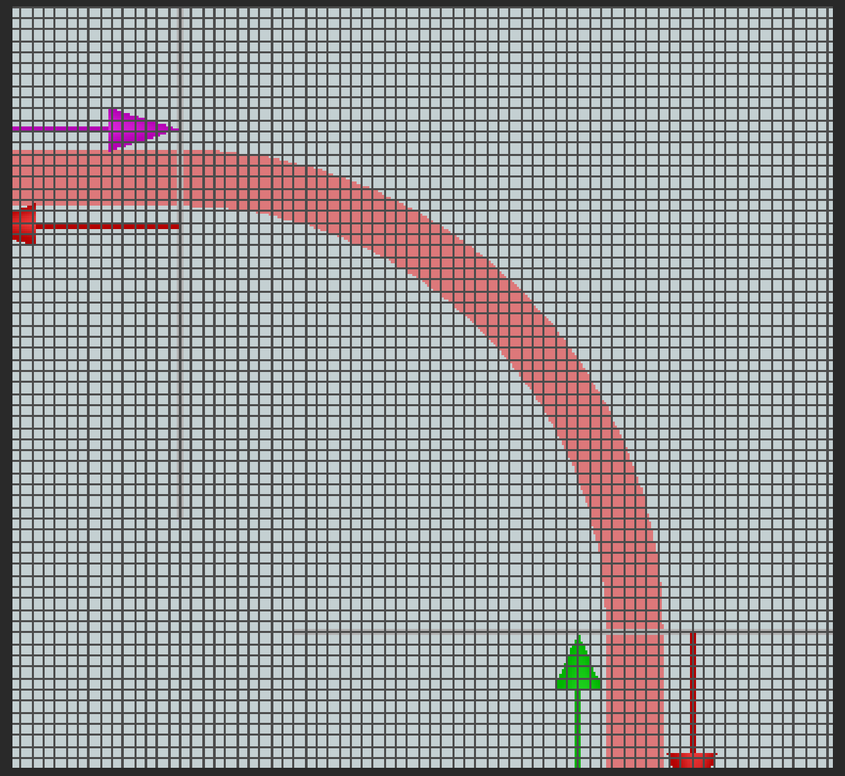
Design dos componentes

Resultados



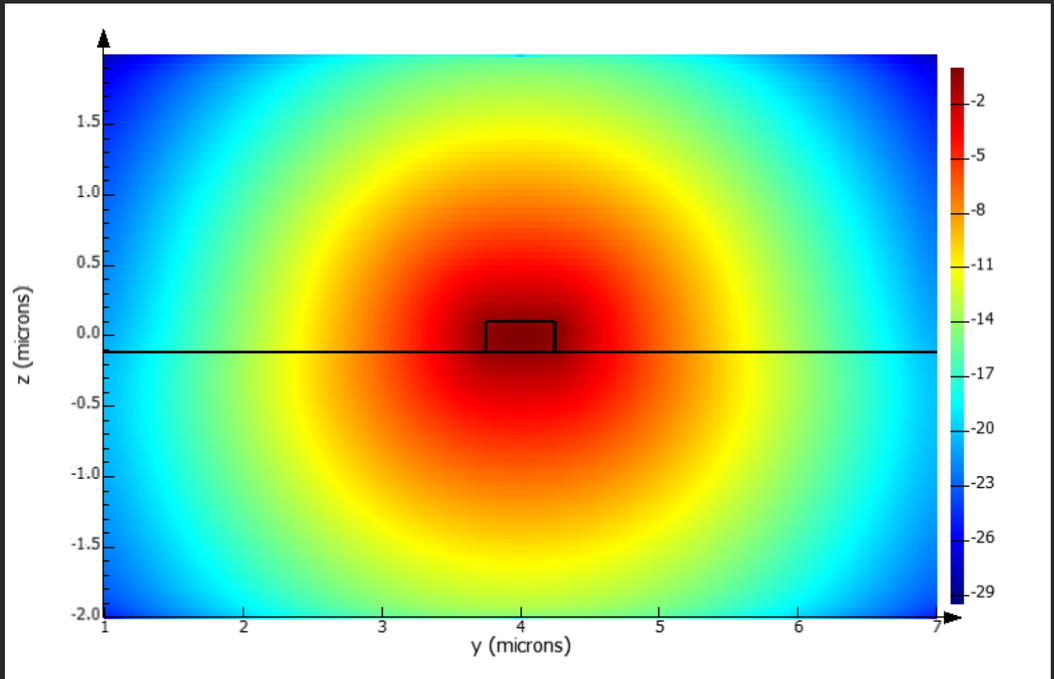
Design dos componentes

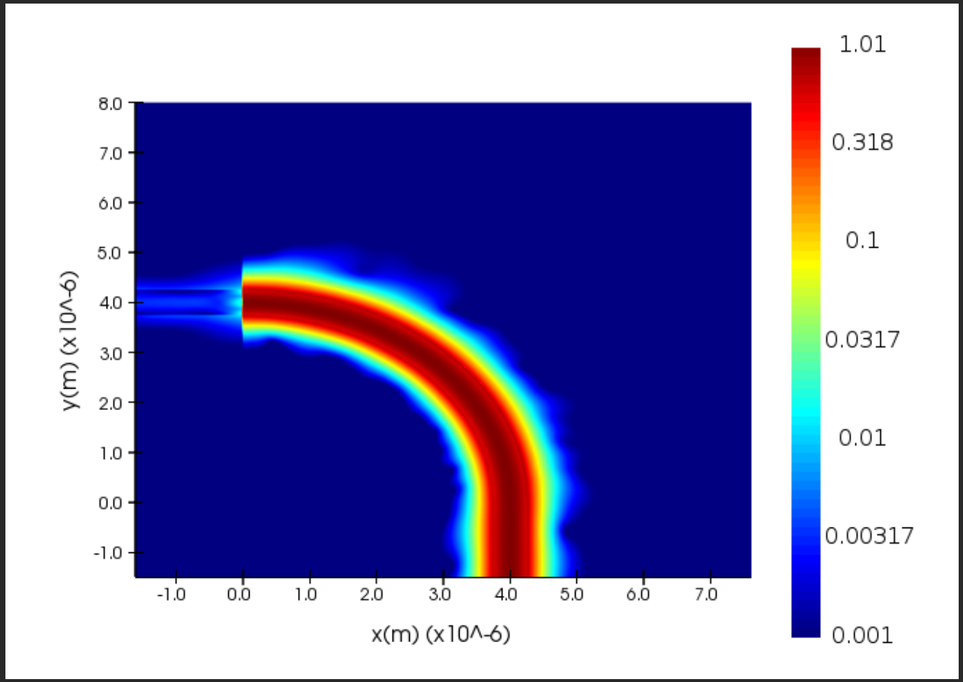
Design do Bend



Design dos componentes

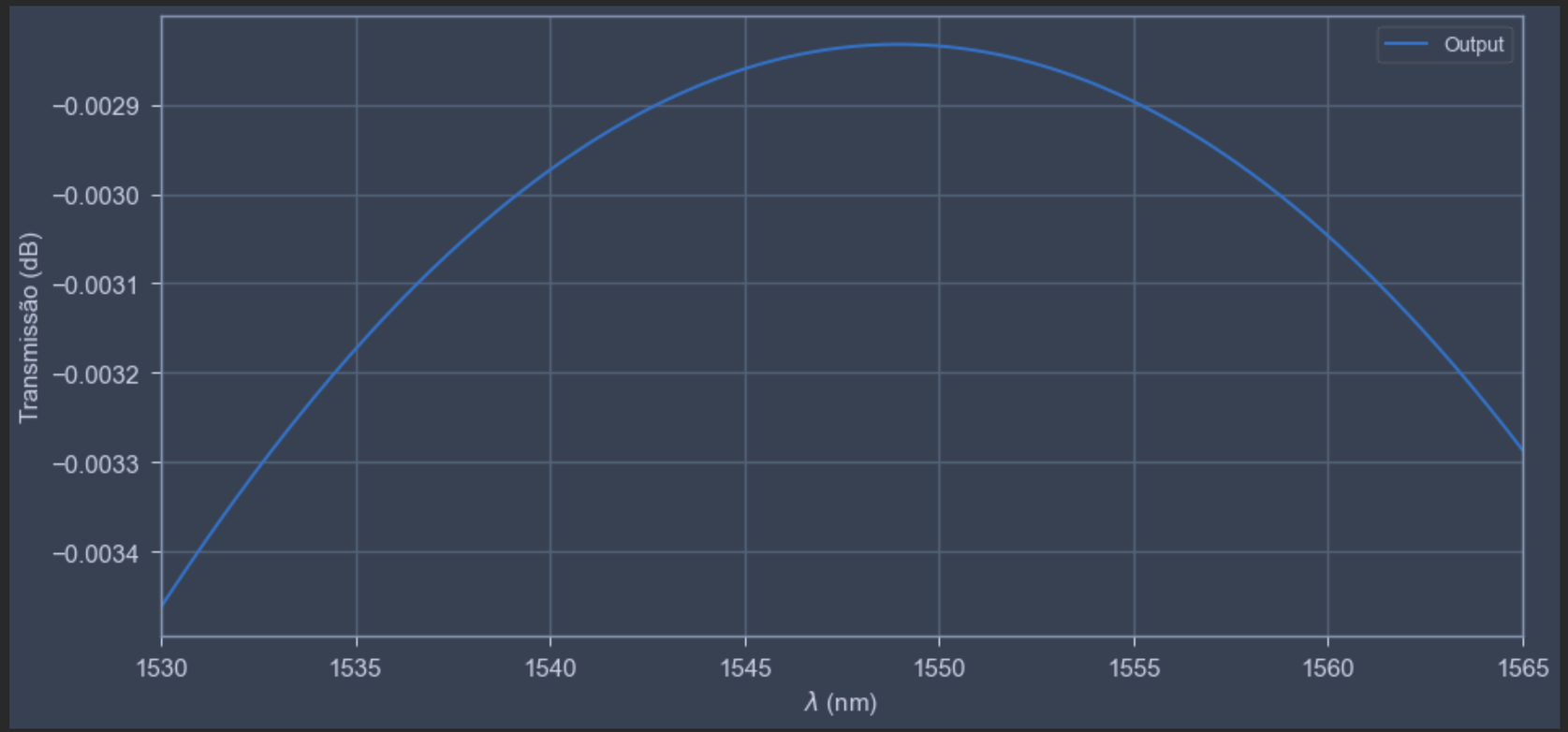
Analise do campo na simulação





Design dos componentes

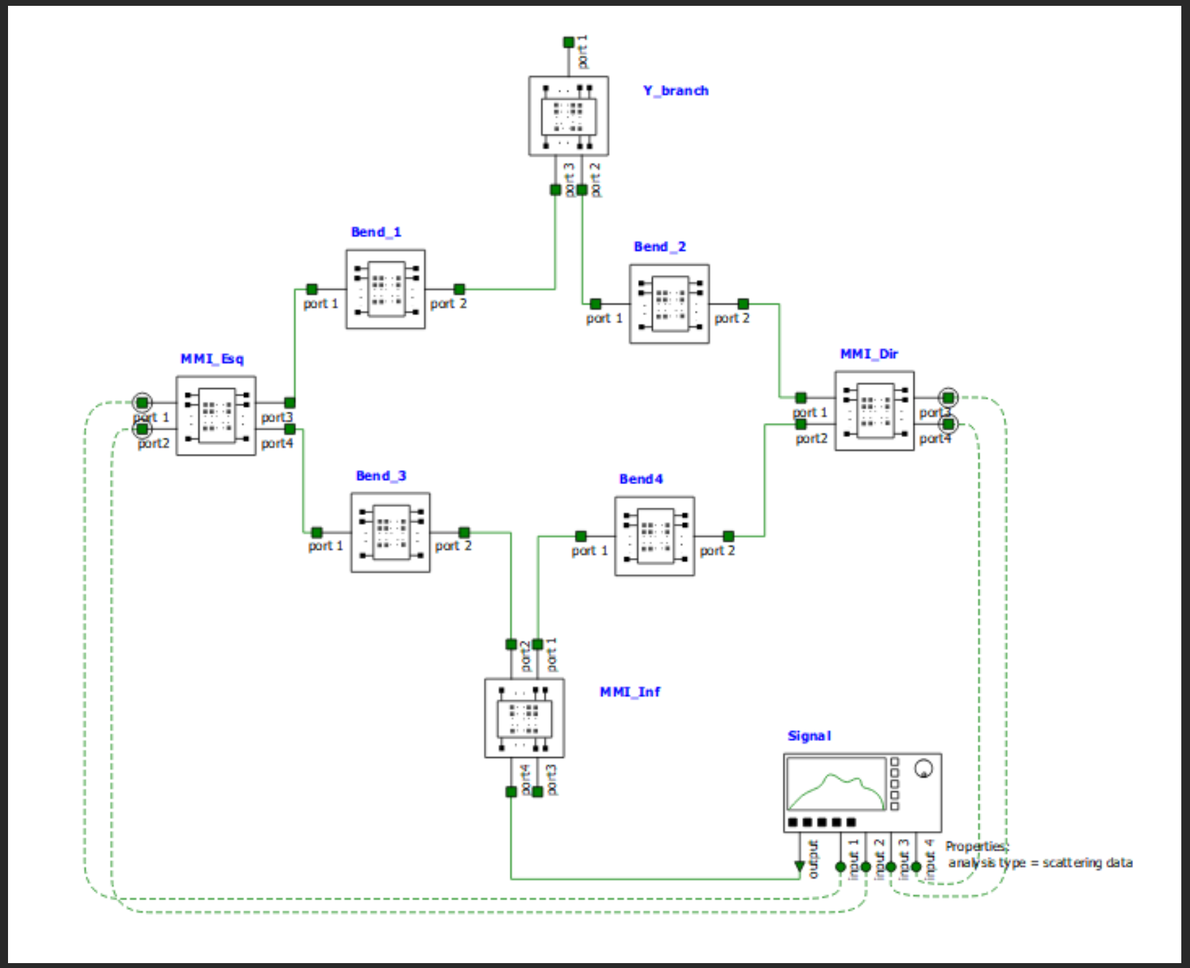
Resultados



SEMANA 2

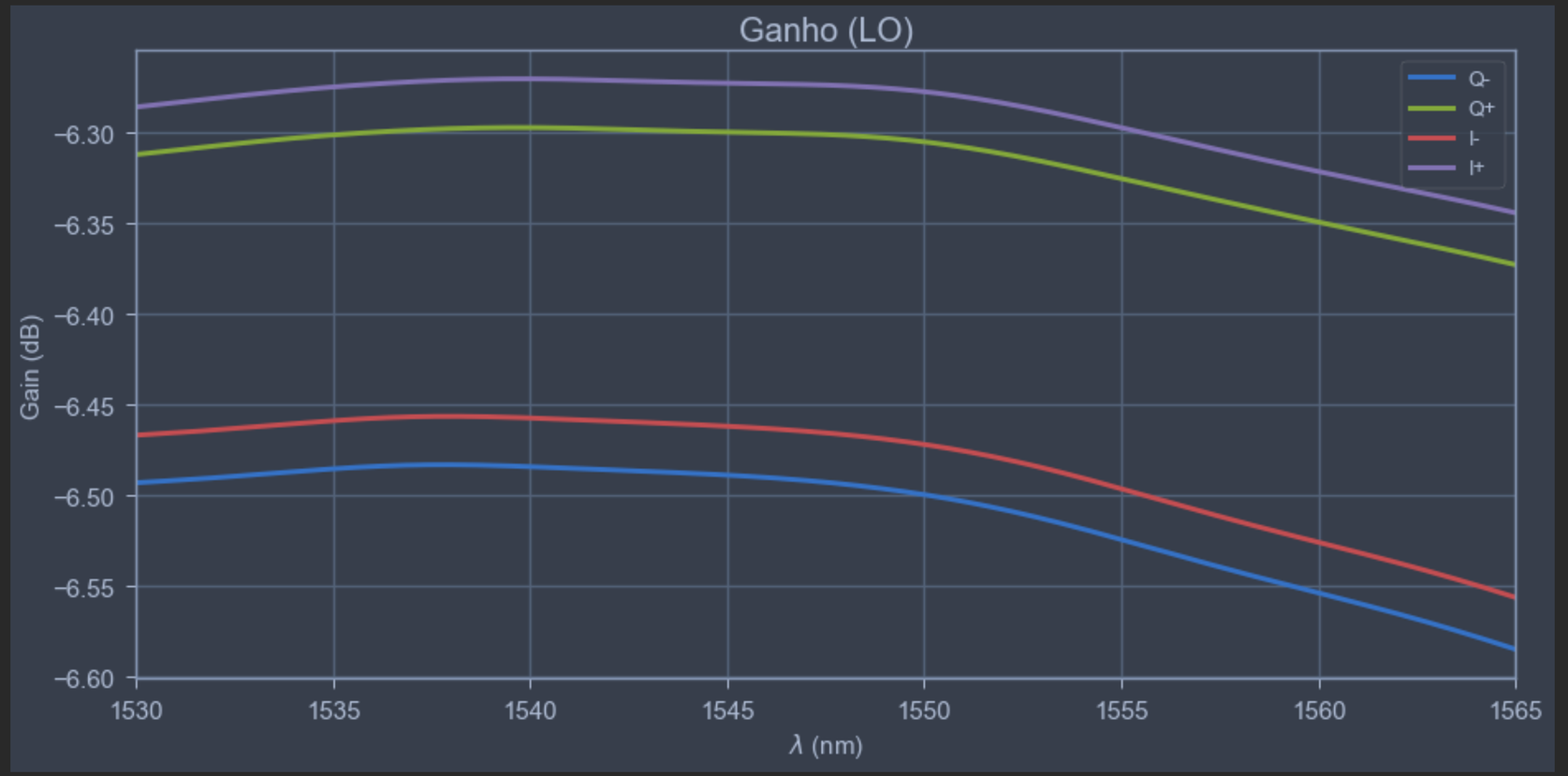
Simulação Interconect

Montagem do dispositivo



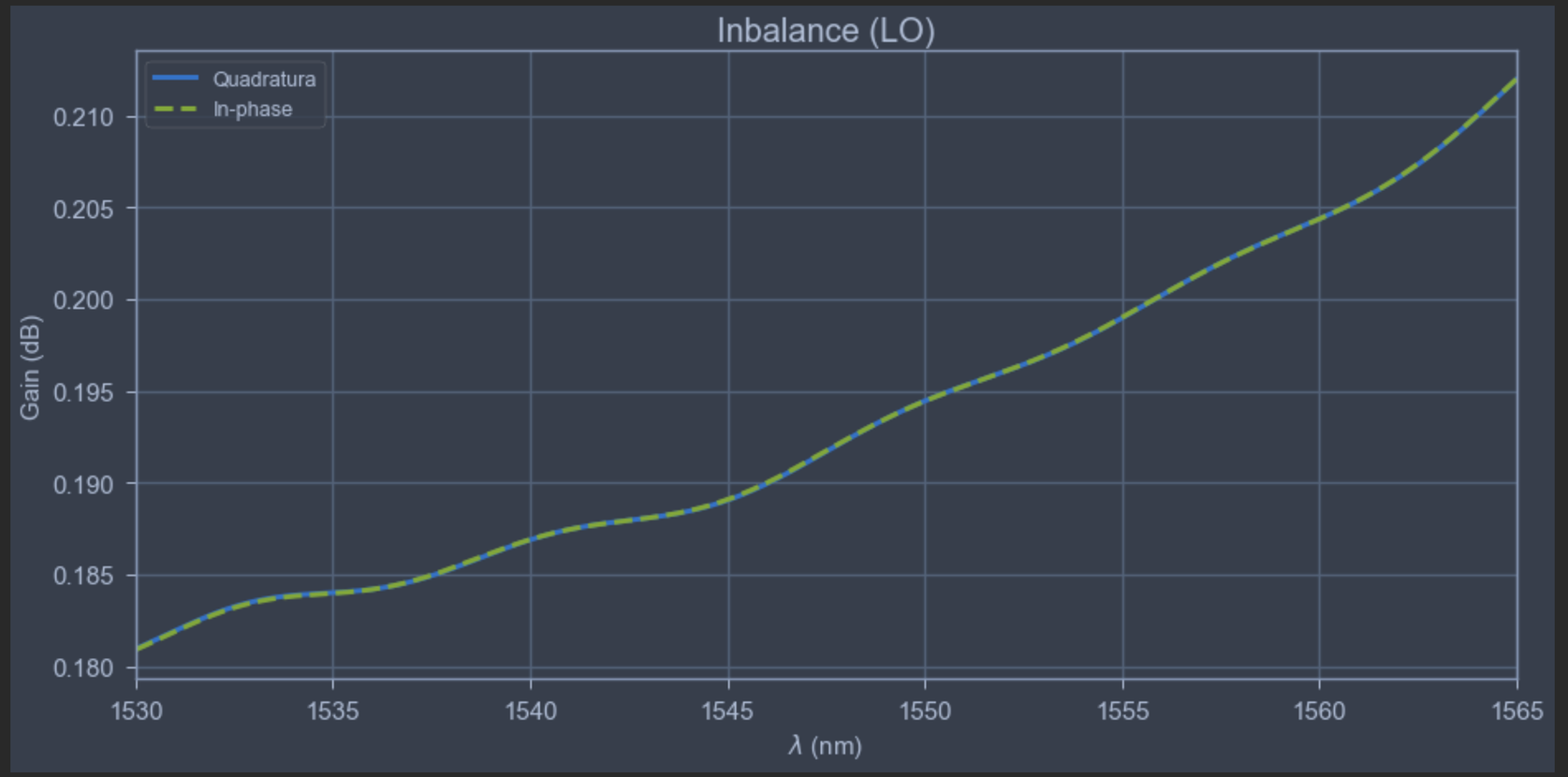
Simulação Inter

Resultados, Porta LO



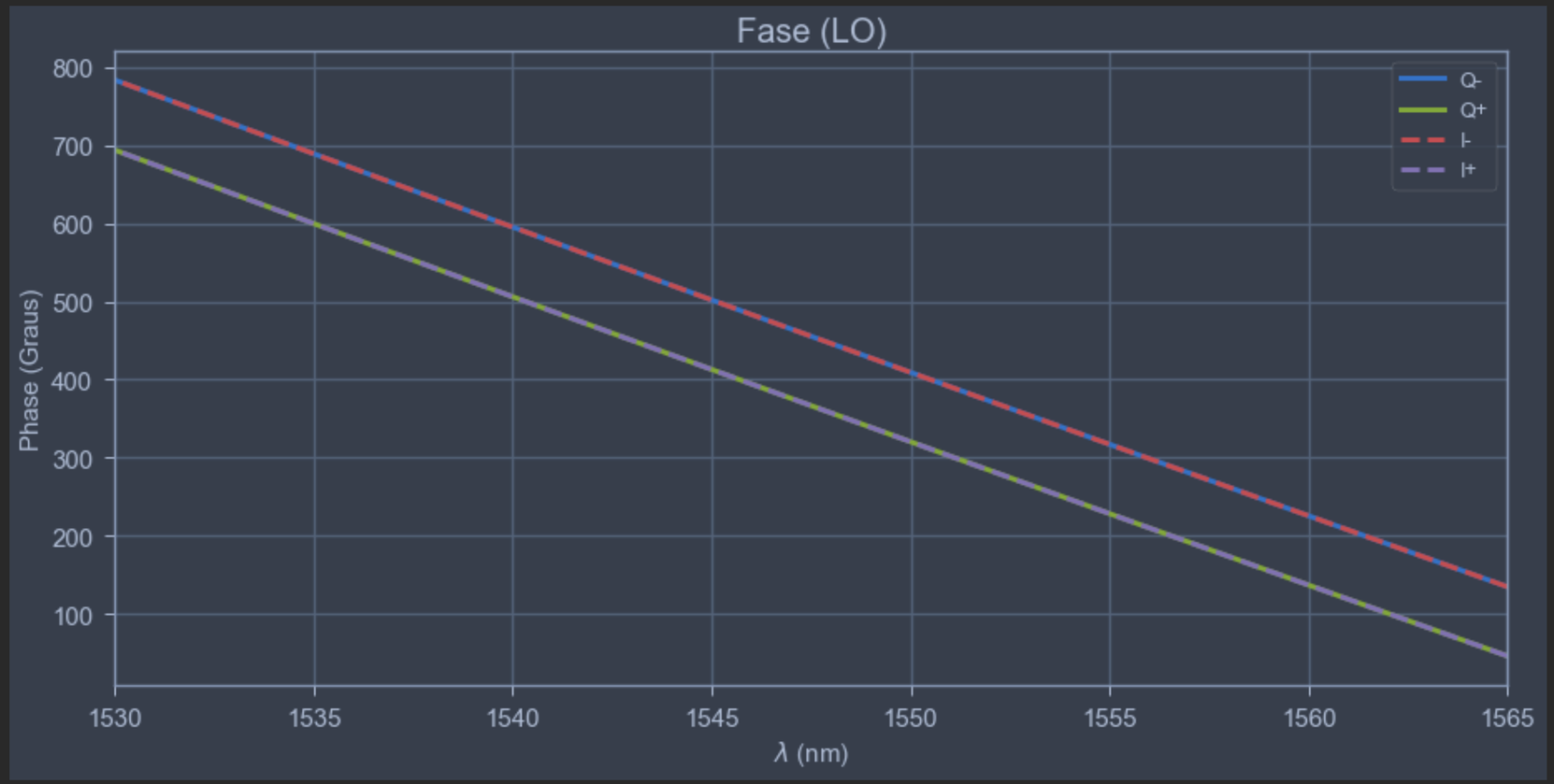
Simulação Inter

Resultados, Porta LO



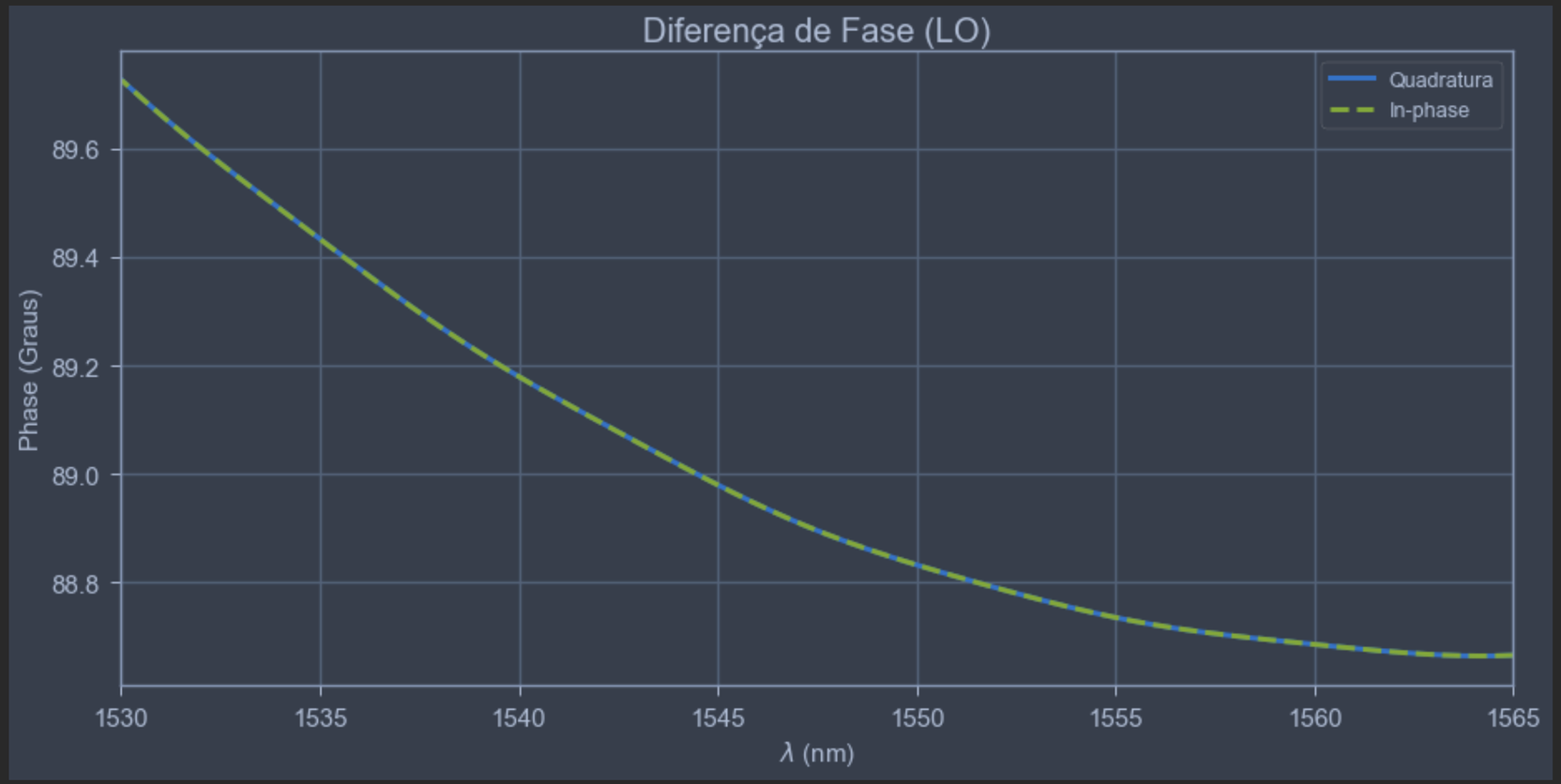
Simulação Inter

Resultados, Porta LO



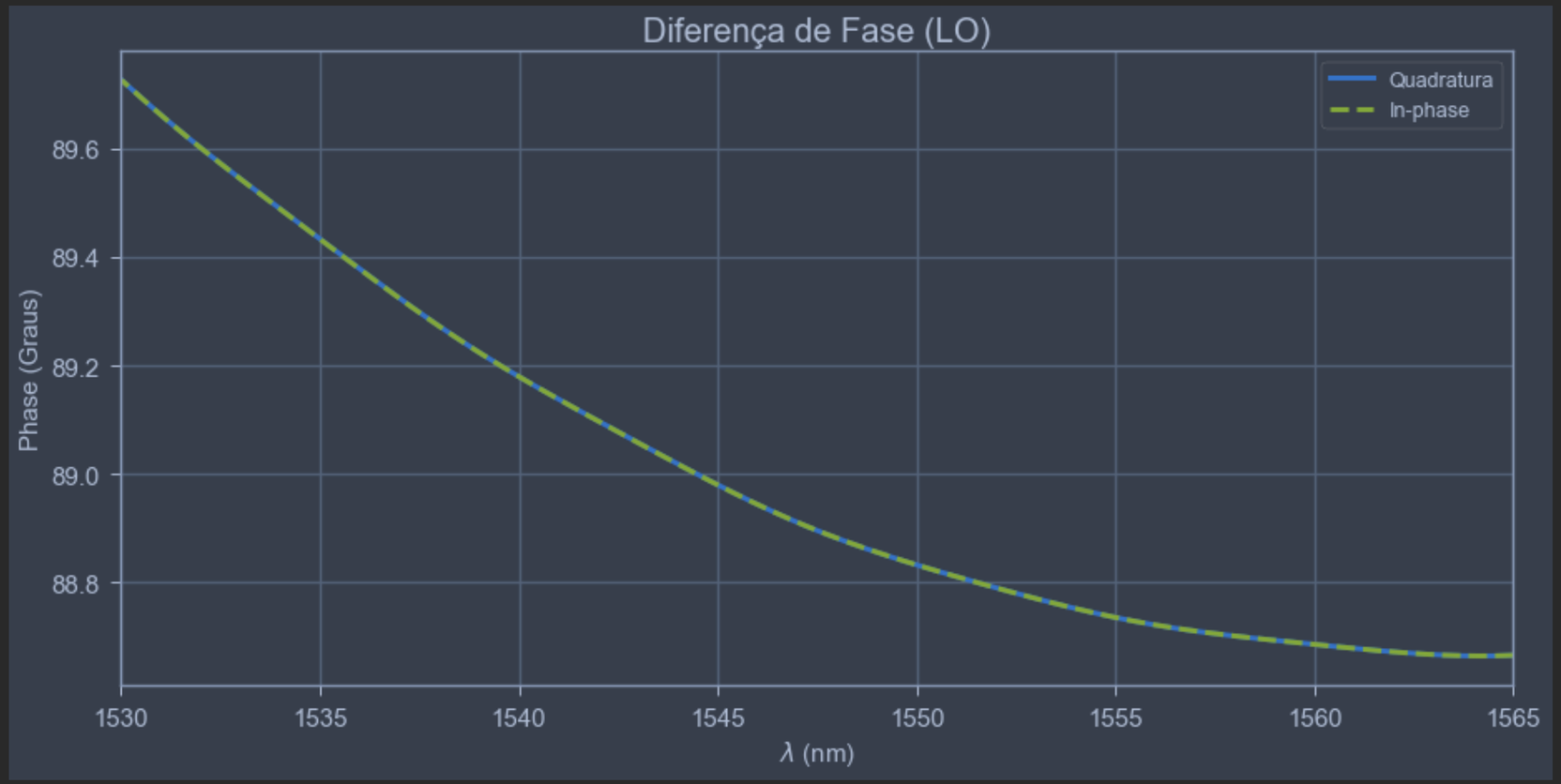
Simulação Inter

Resultados, Porta LO



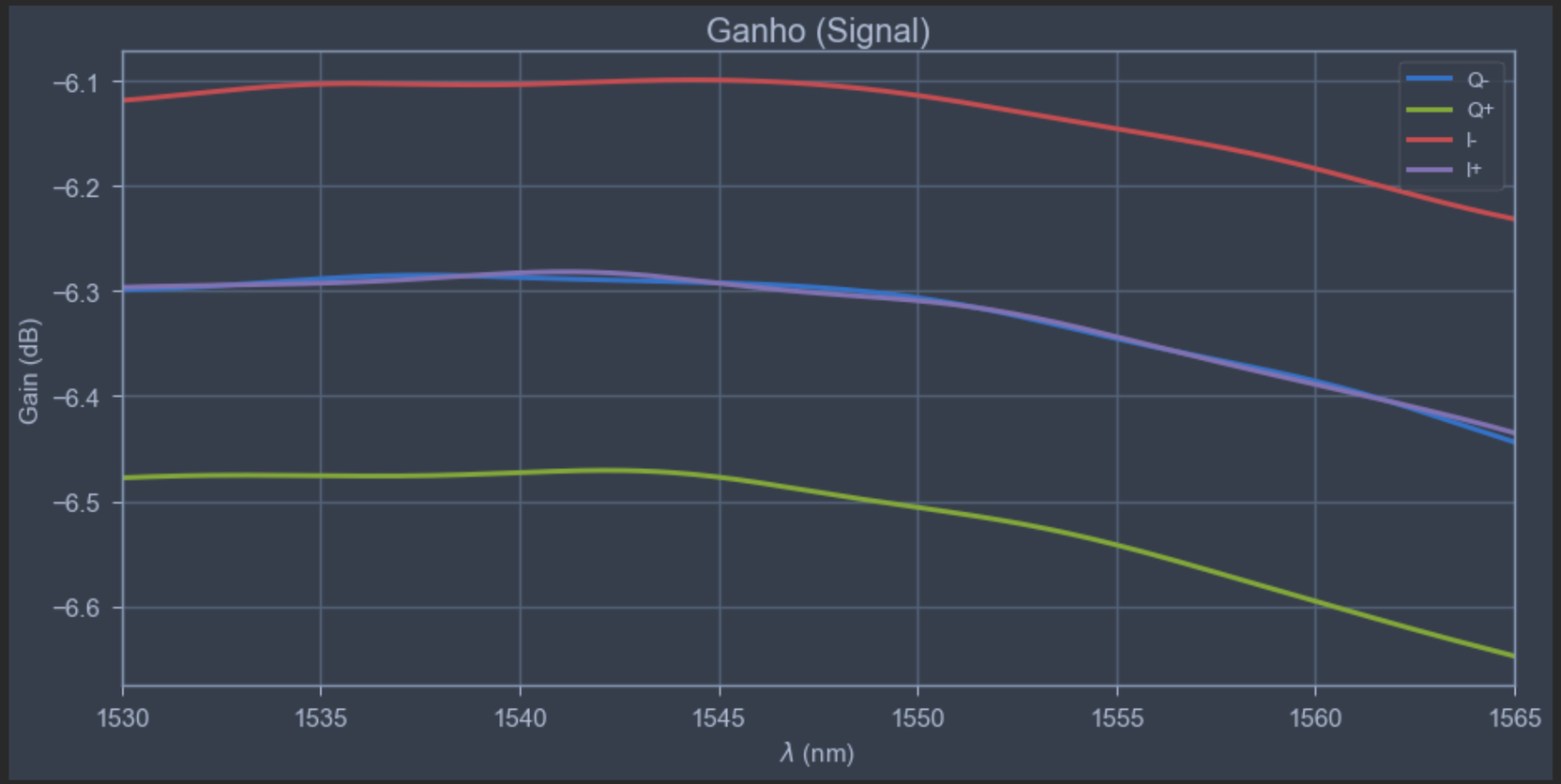
Simulação Inter

Resultados, Porta LO



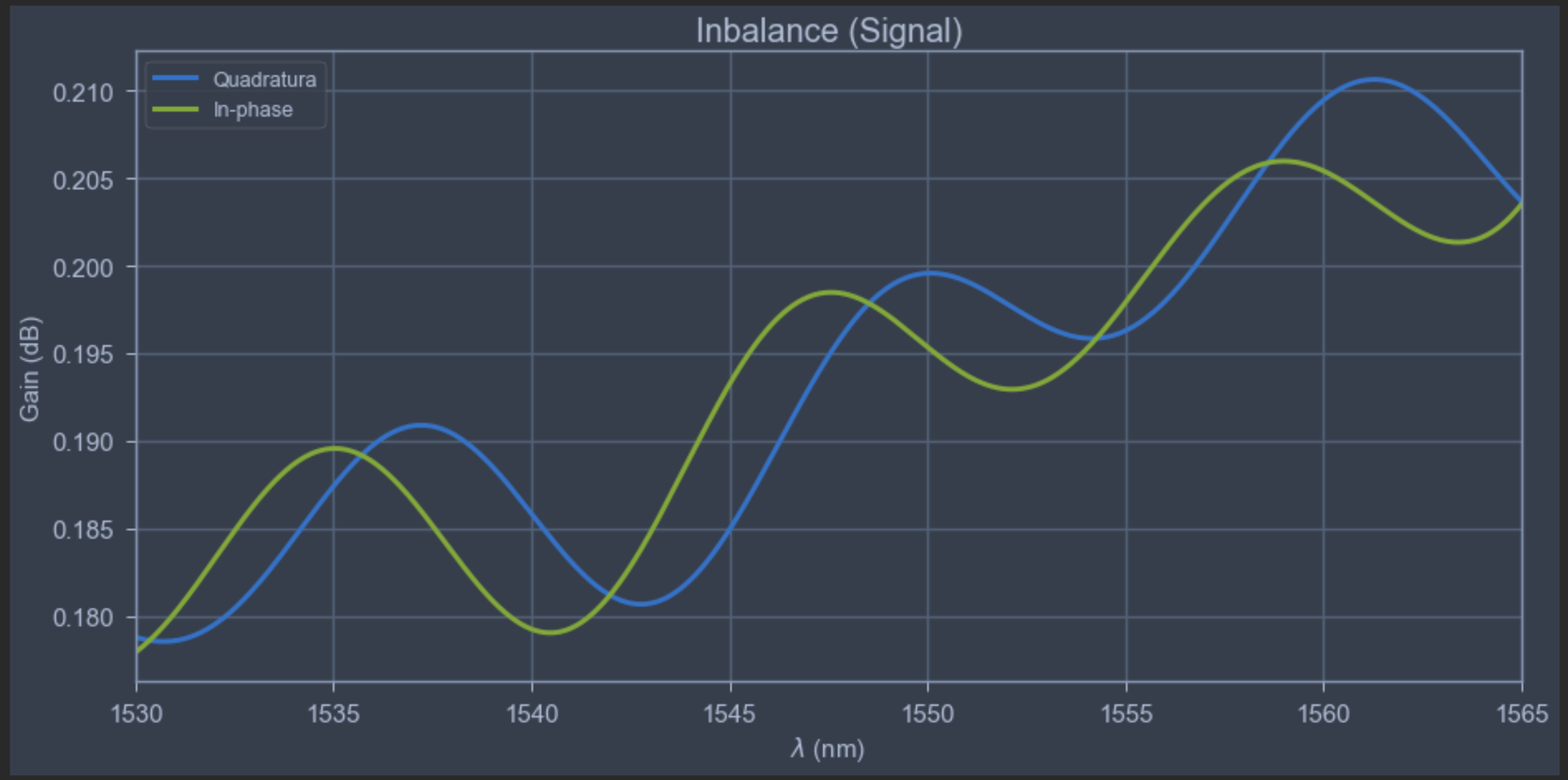
Simulação Inter

Resultados, Porta Signal



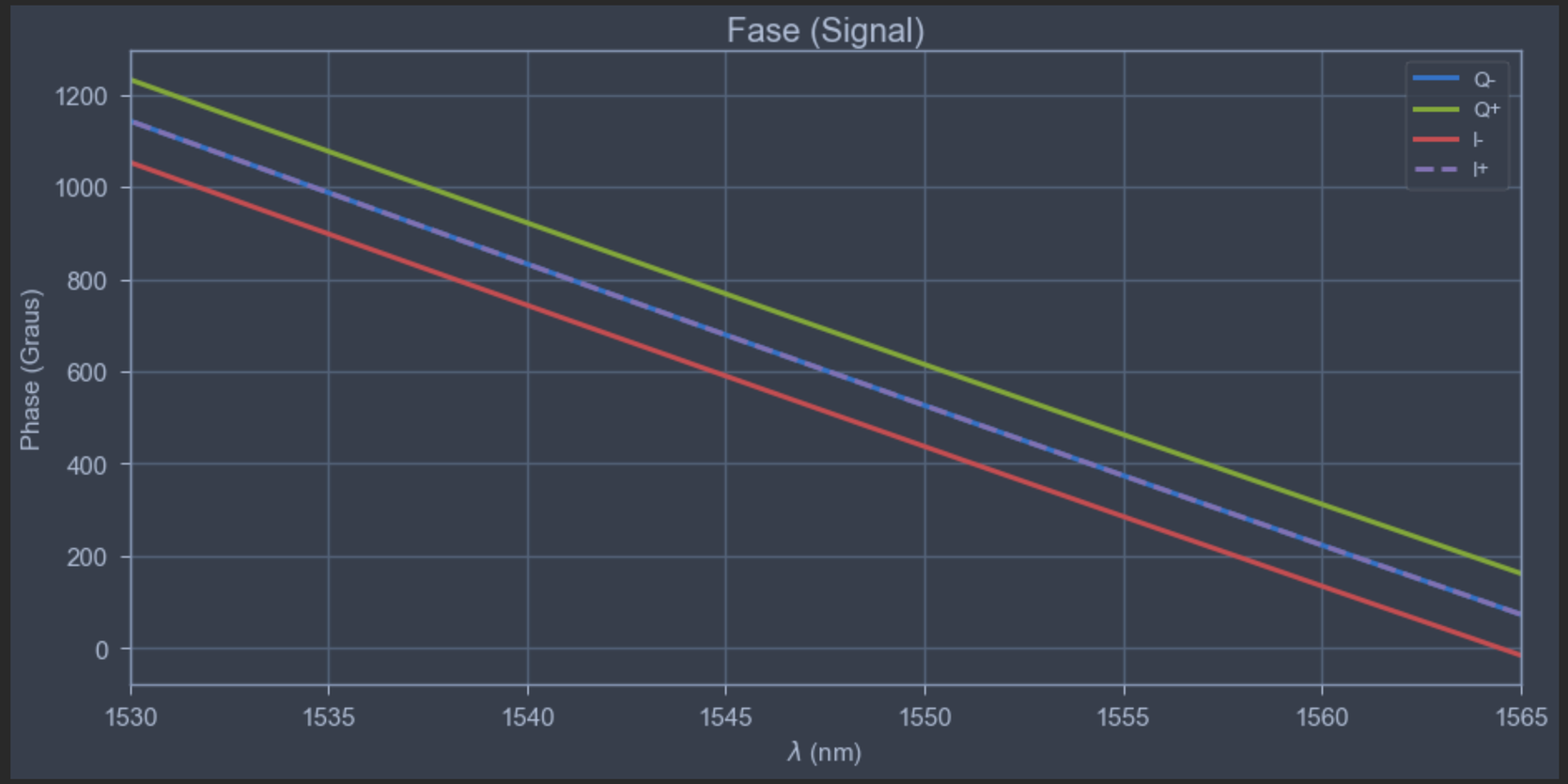
Simulação Inter

Resultados, Porta Signal



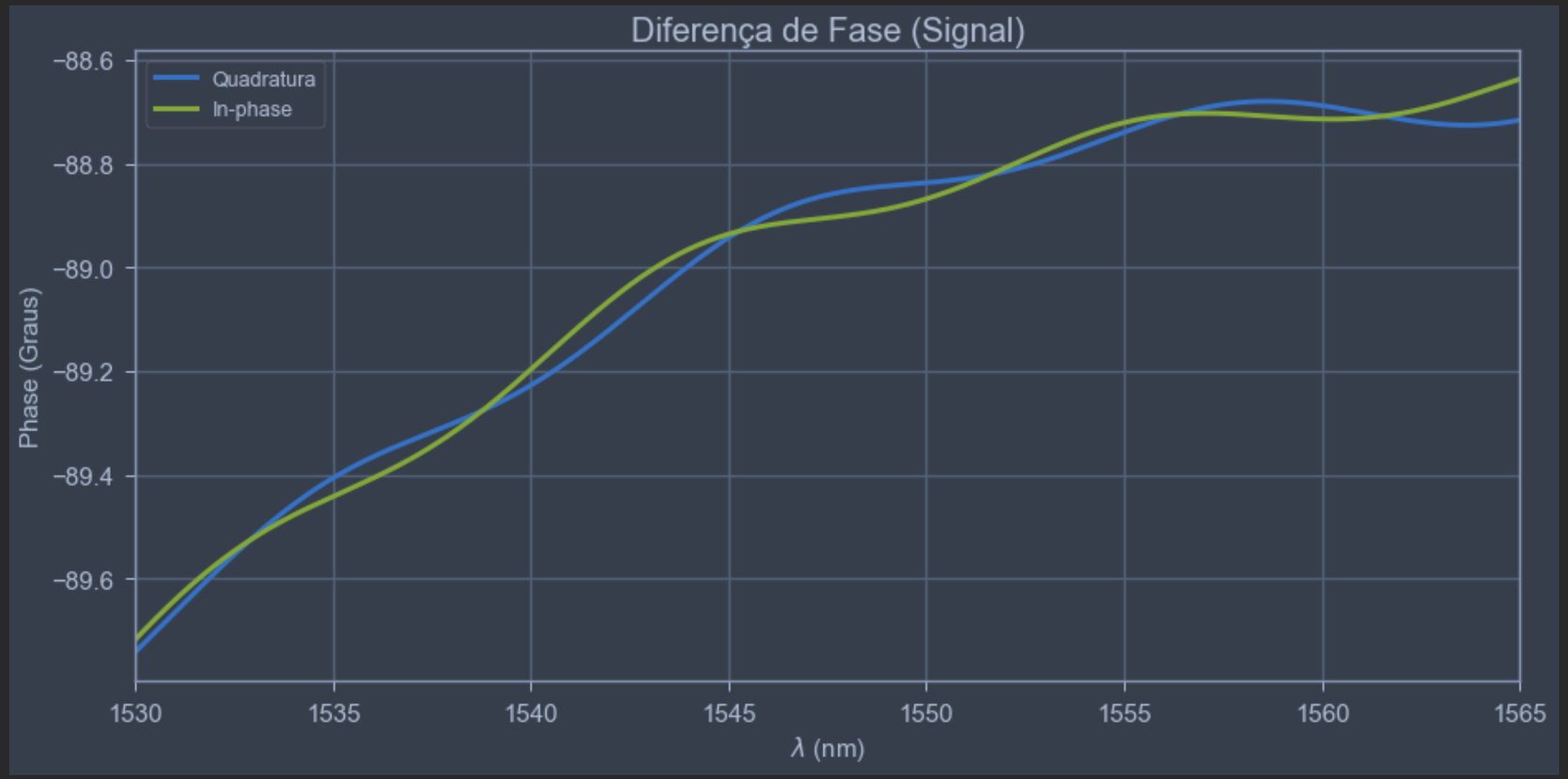
Simulação Inter

Resultados, Porta Signal



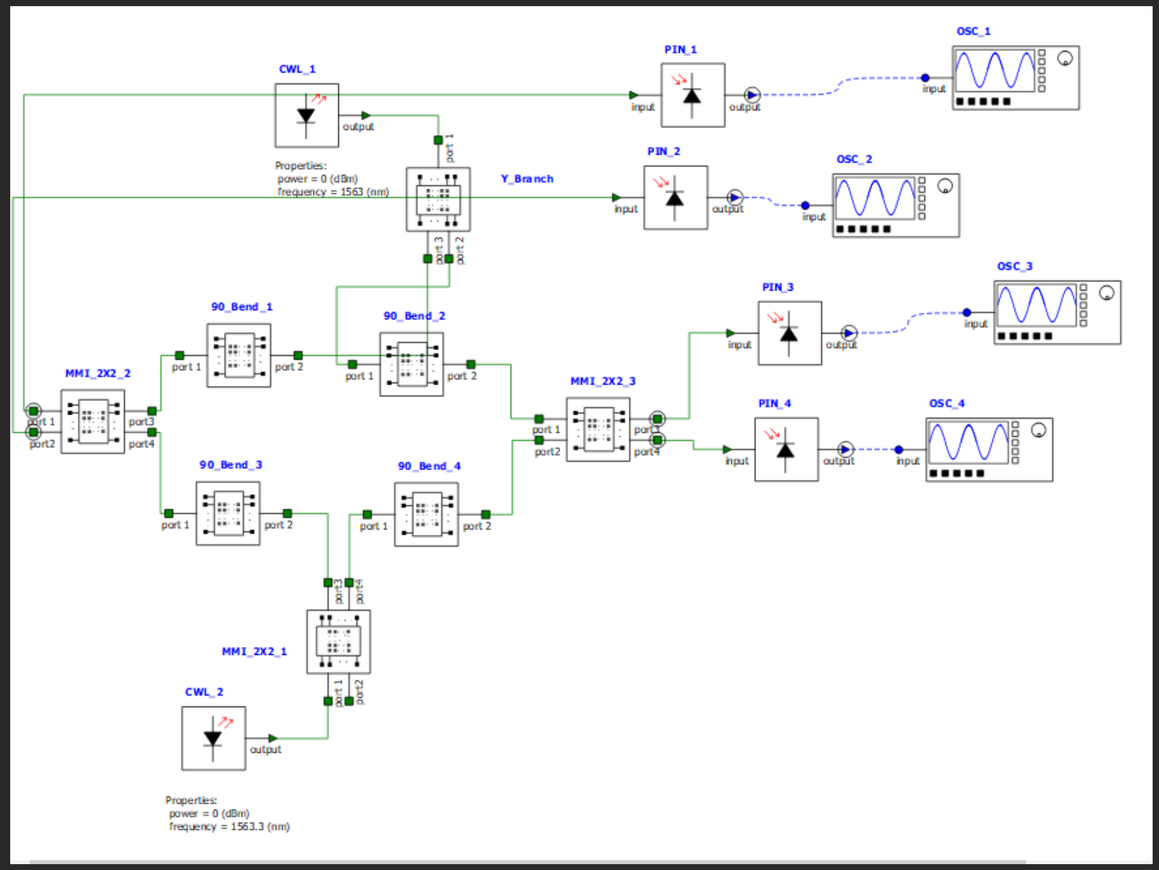
Simulação Inter

Resultados, Porta Signal



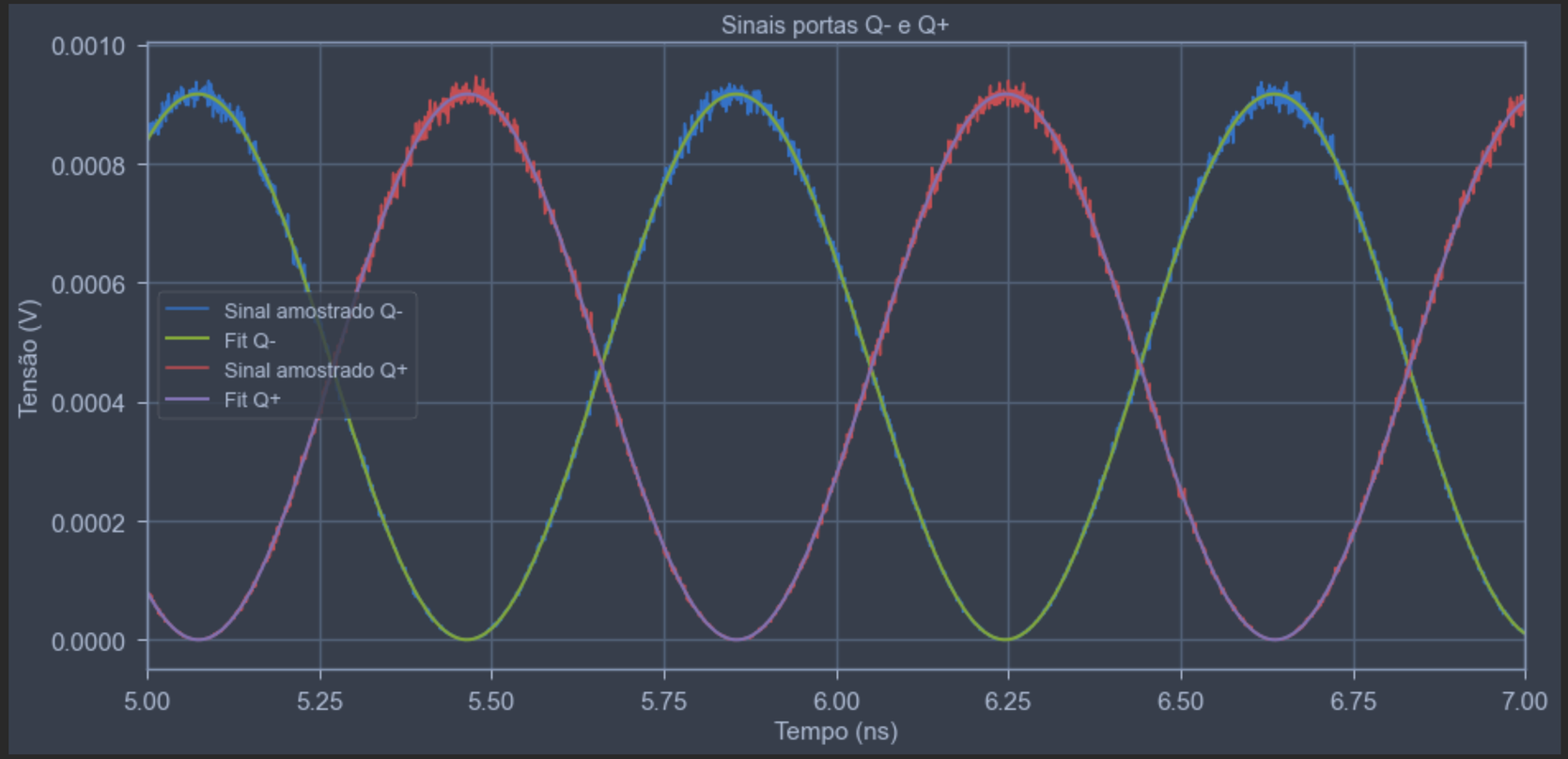
Simulação Inter

Diferença de fase experimental



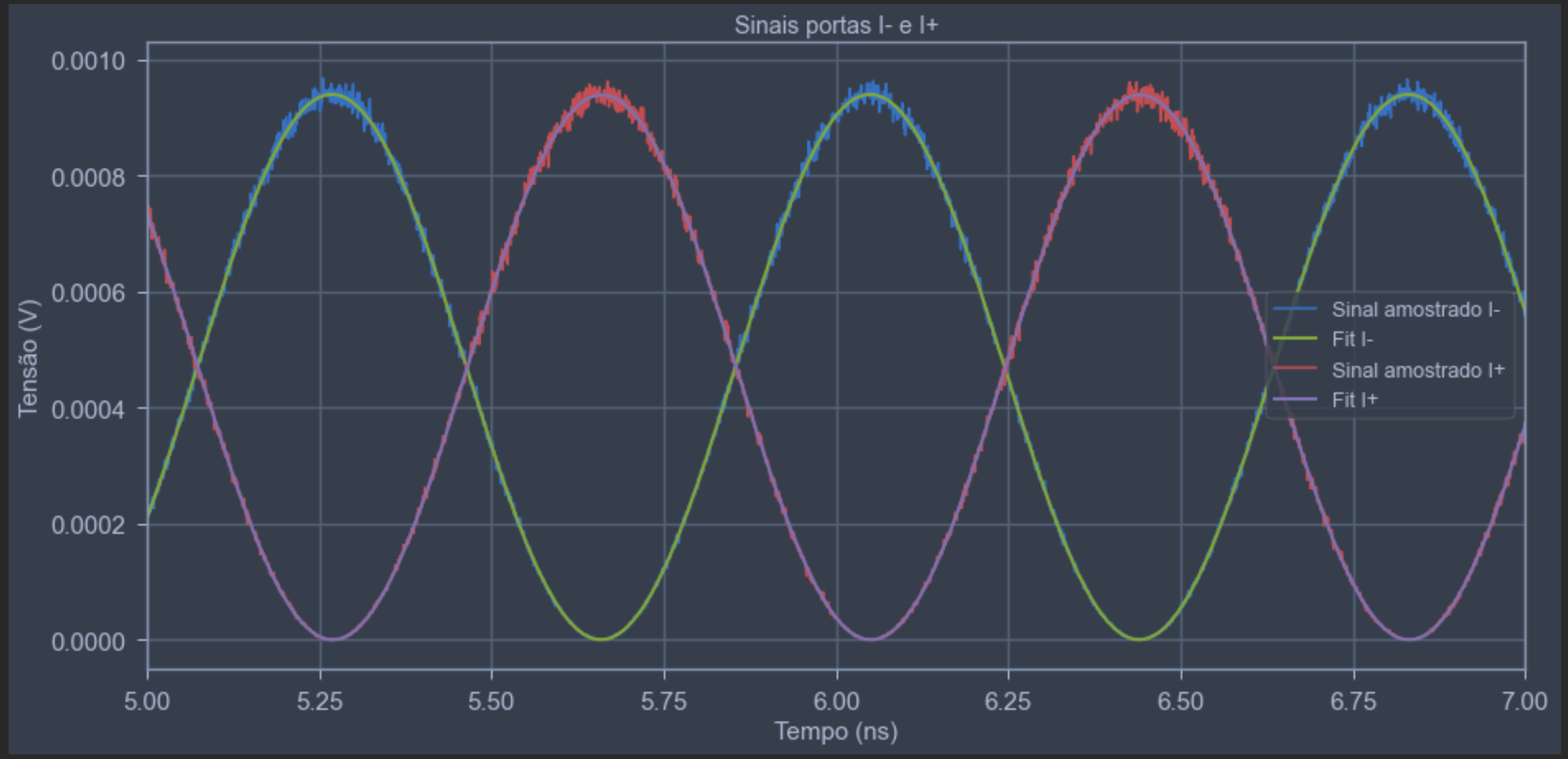
Simulação Inter

Diferença de fase experimental



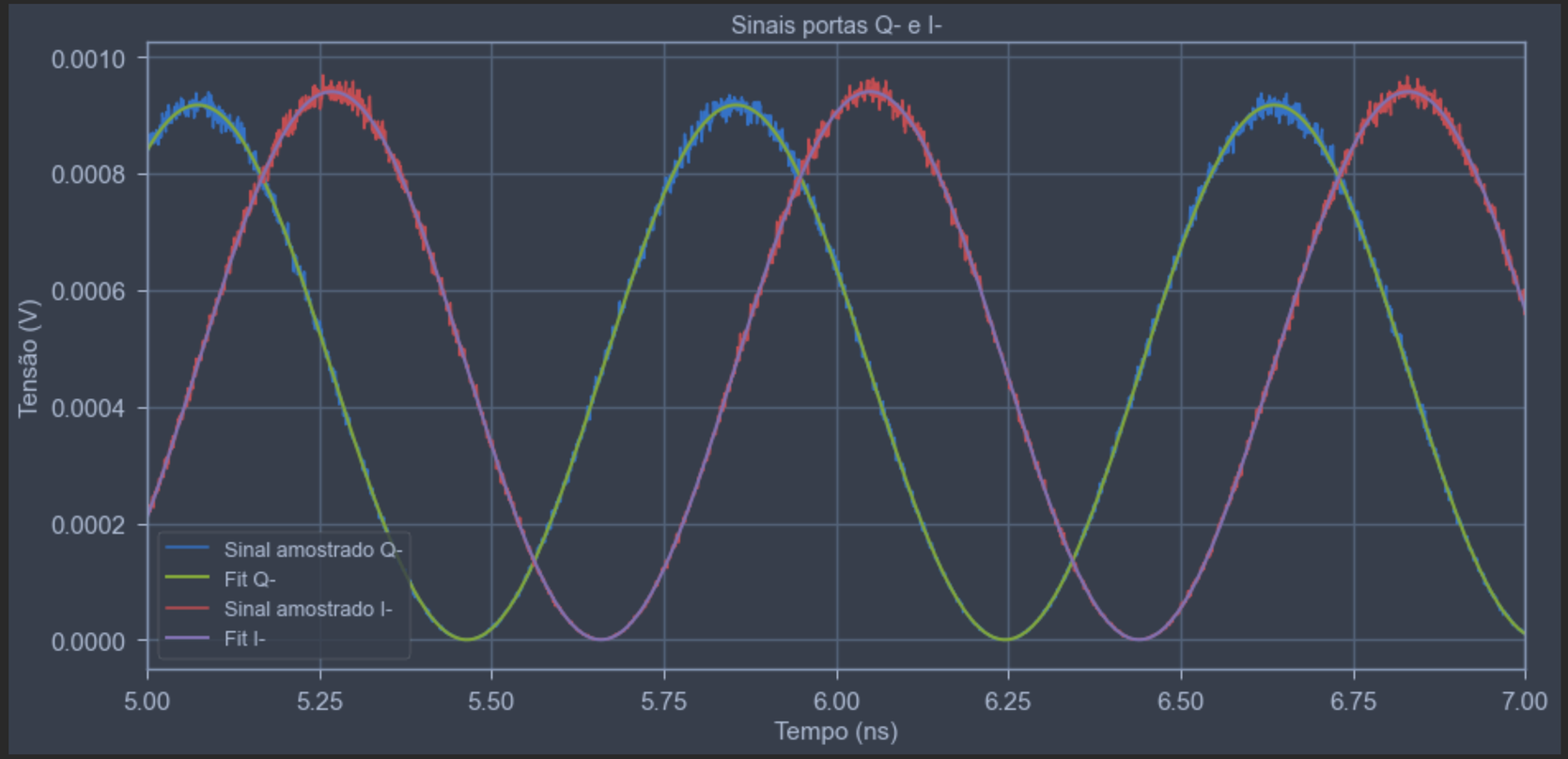
Simulação Inter

Diferença de fase experimental



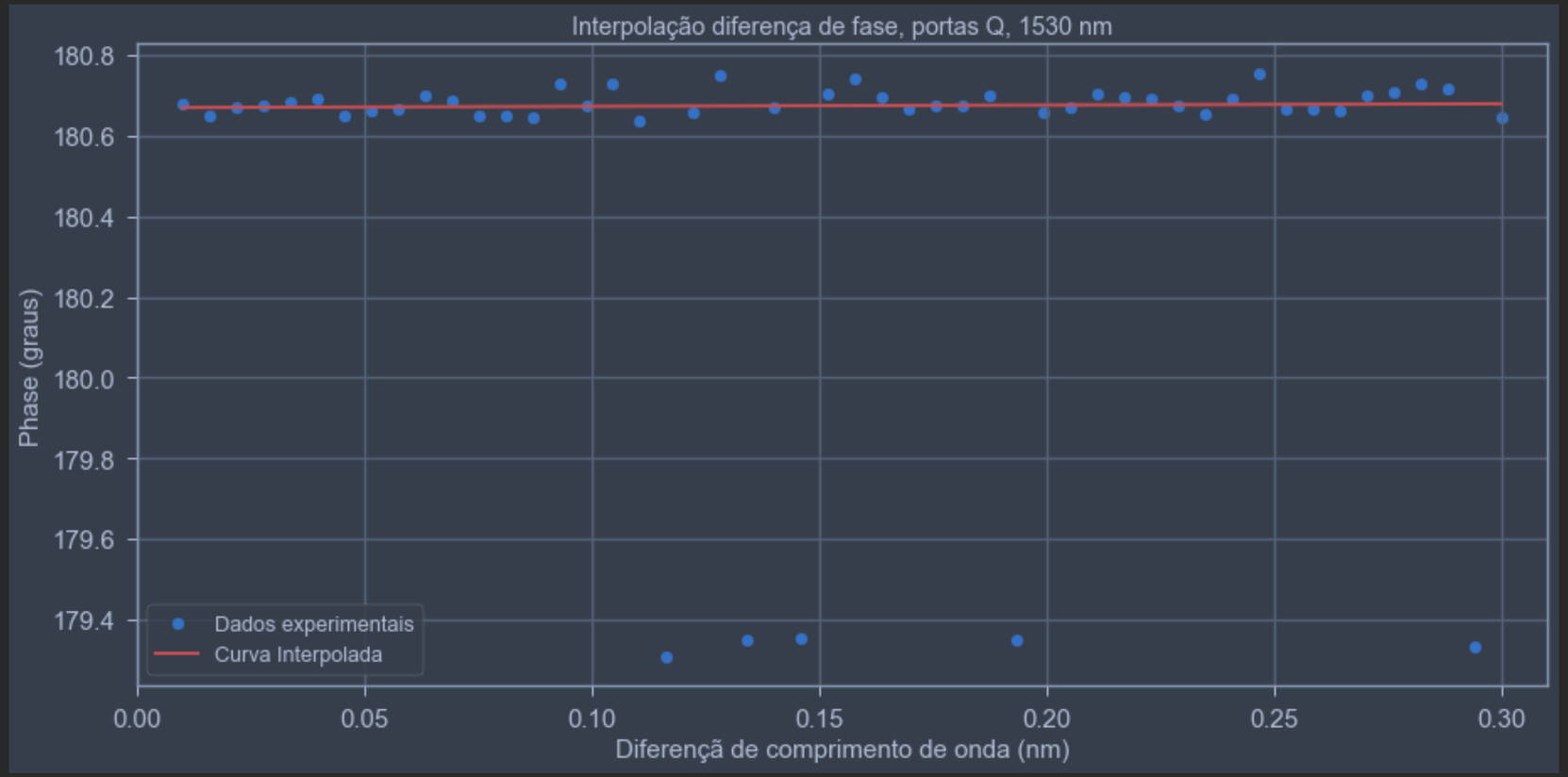
Simulação Inter

Diferença de fase experimental



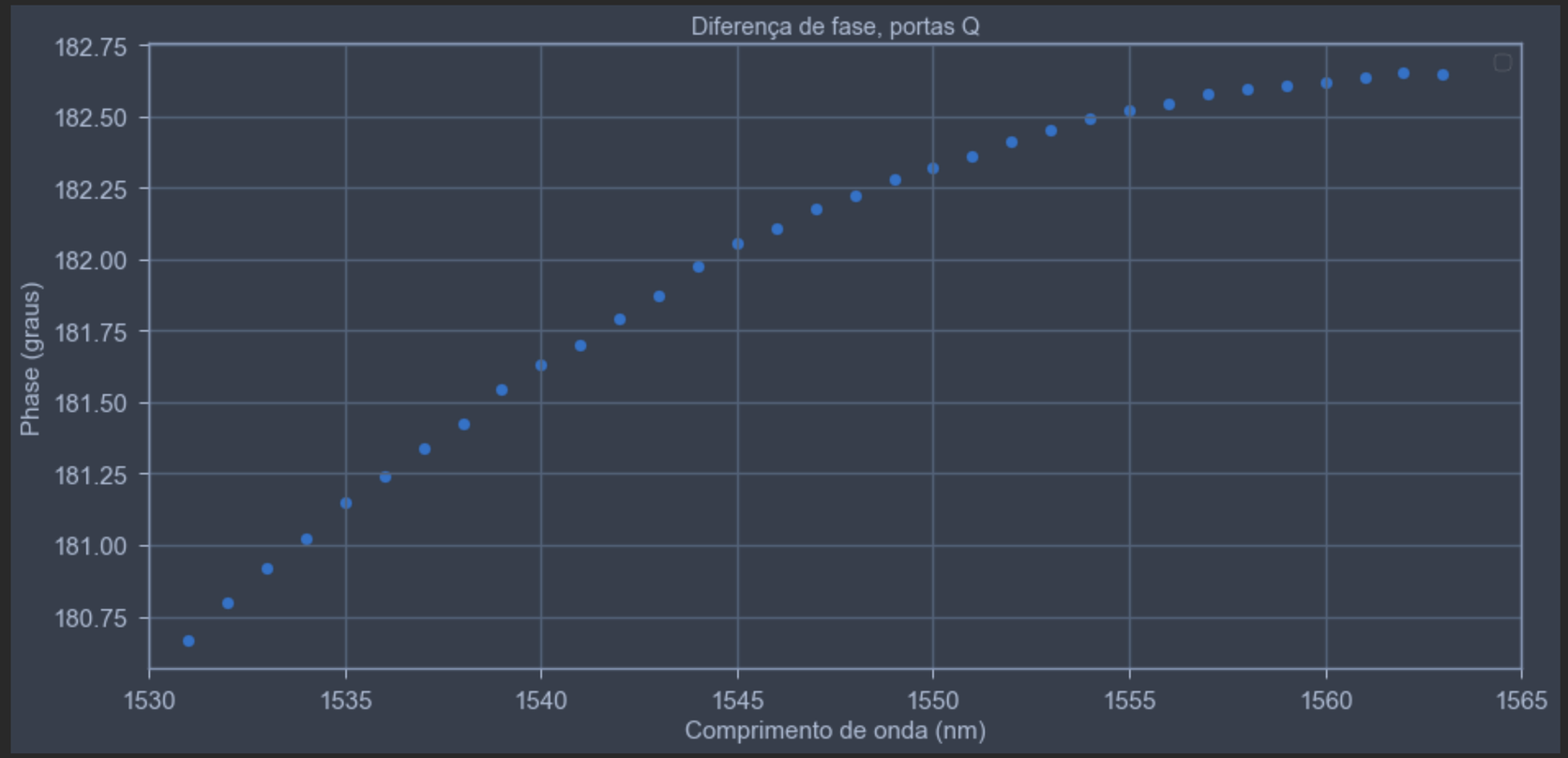
Simulação Inter

Diferença de fase experimental



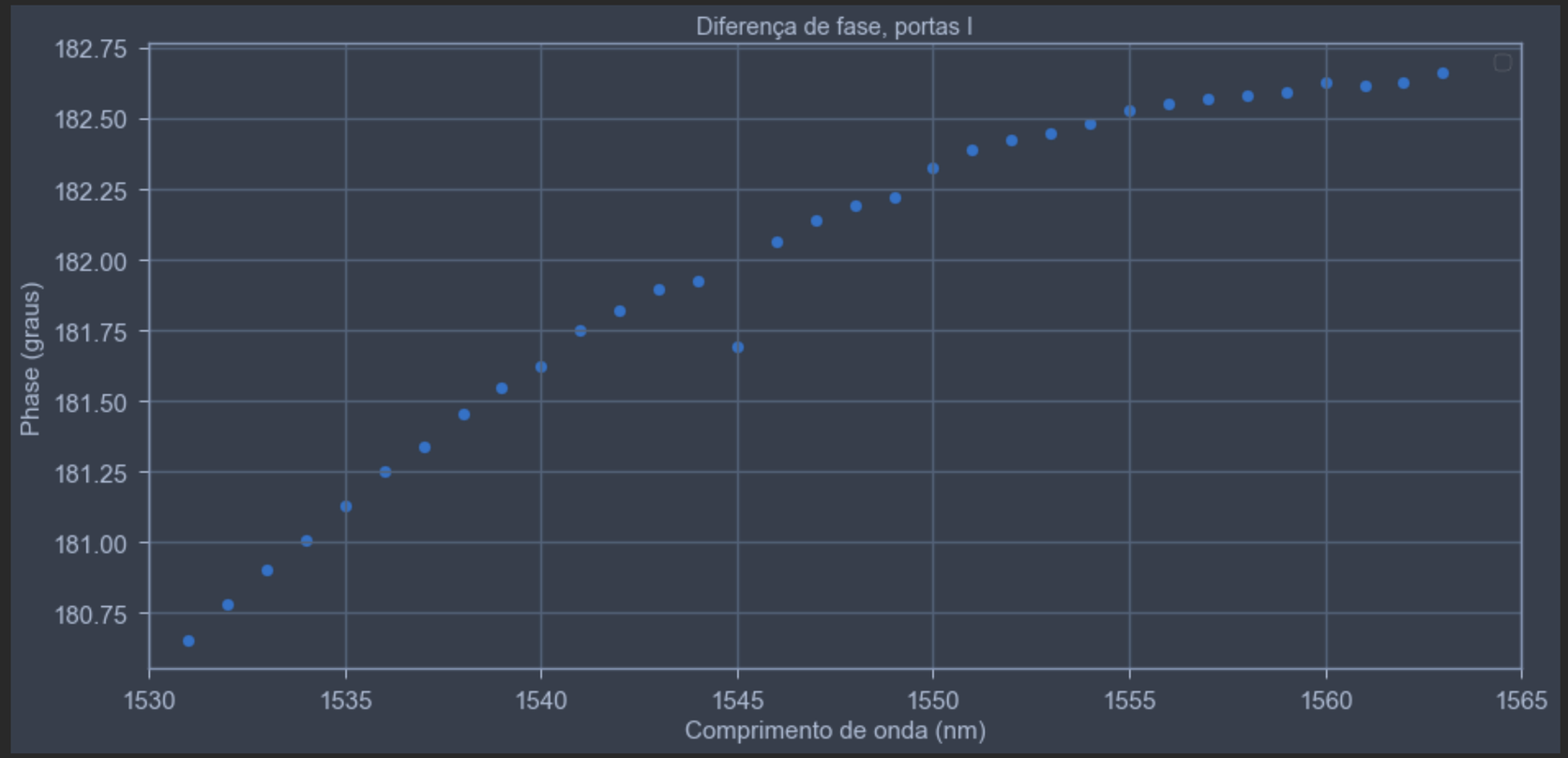
Simulação Inter

Diferença de fase experimental



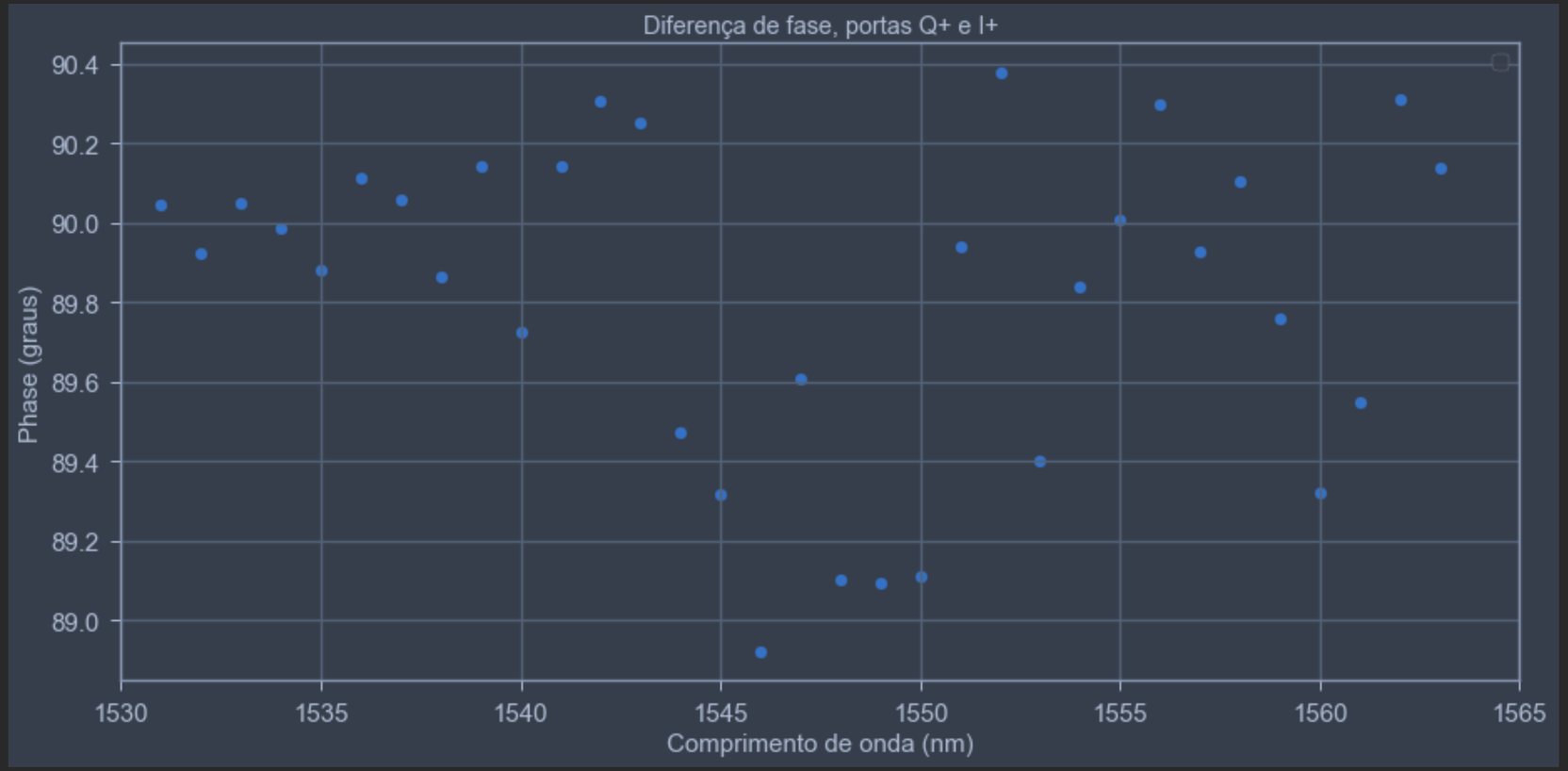
Simulação Inter

Diferença de fase experimental



Simulação Inter

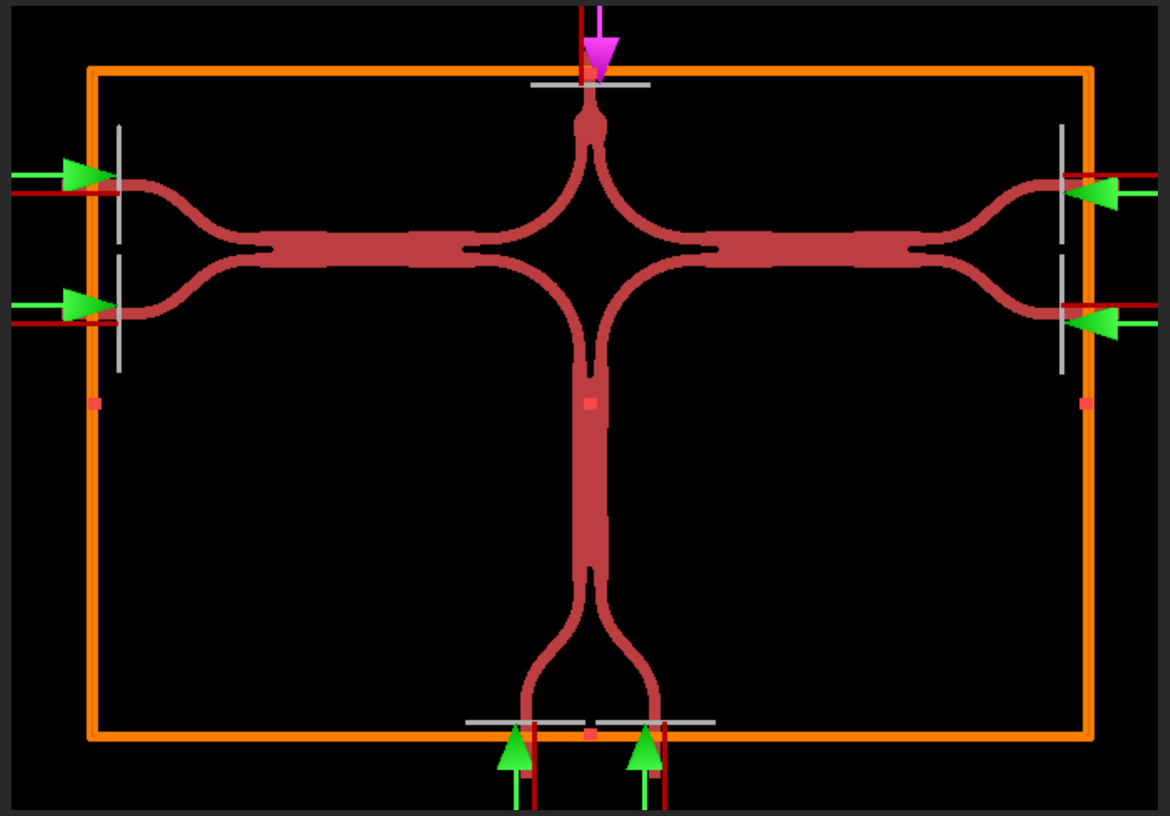
Diferença de fase experimental



SEMANA 2

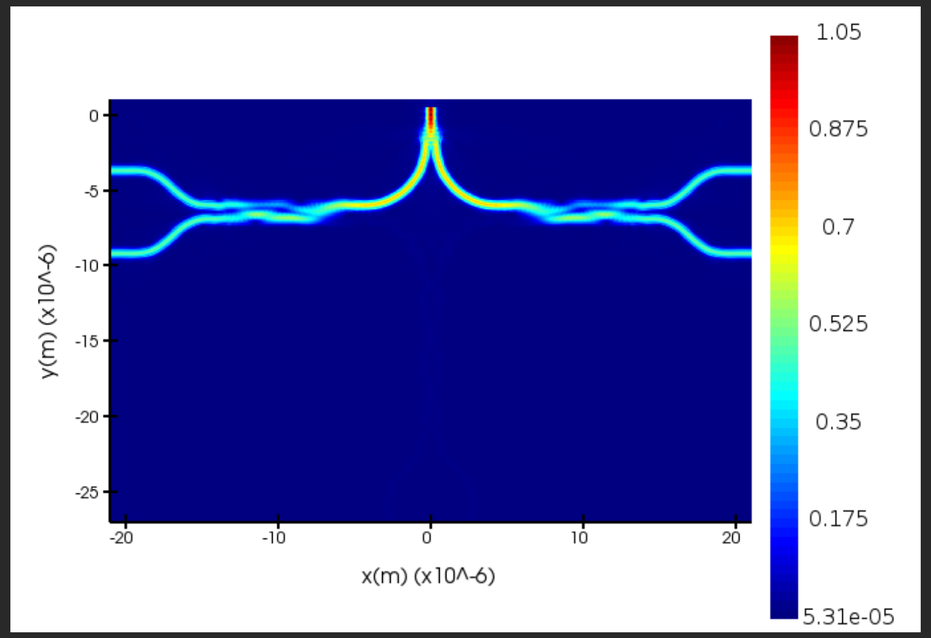
Simulação FDTD

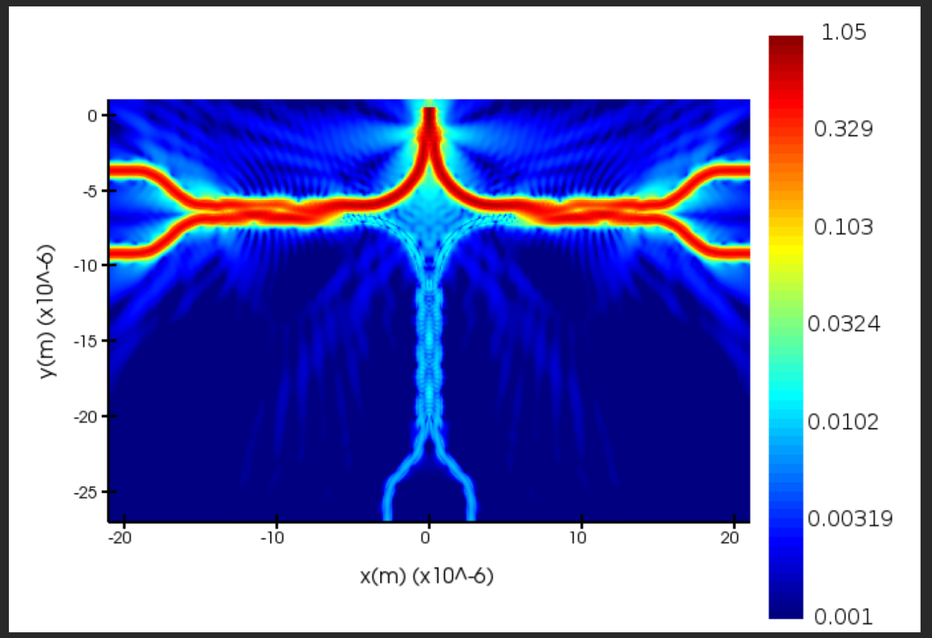
Simulação FDTD



Simulação FDTD

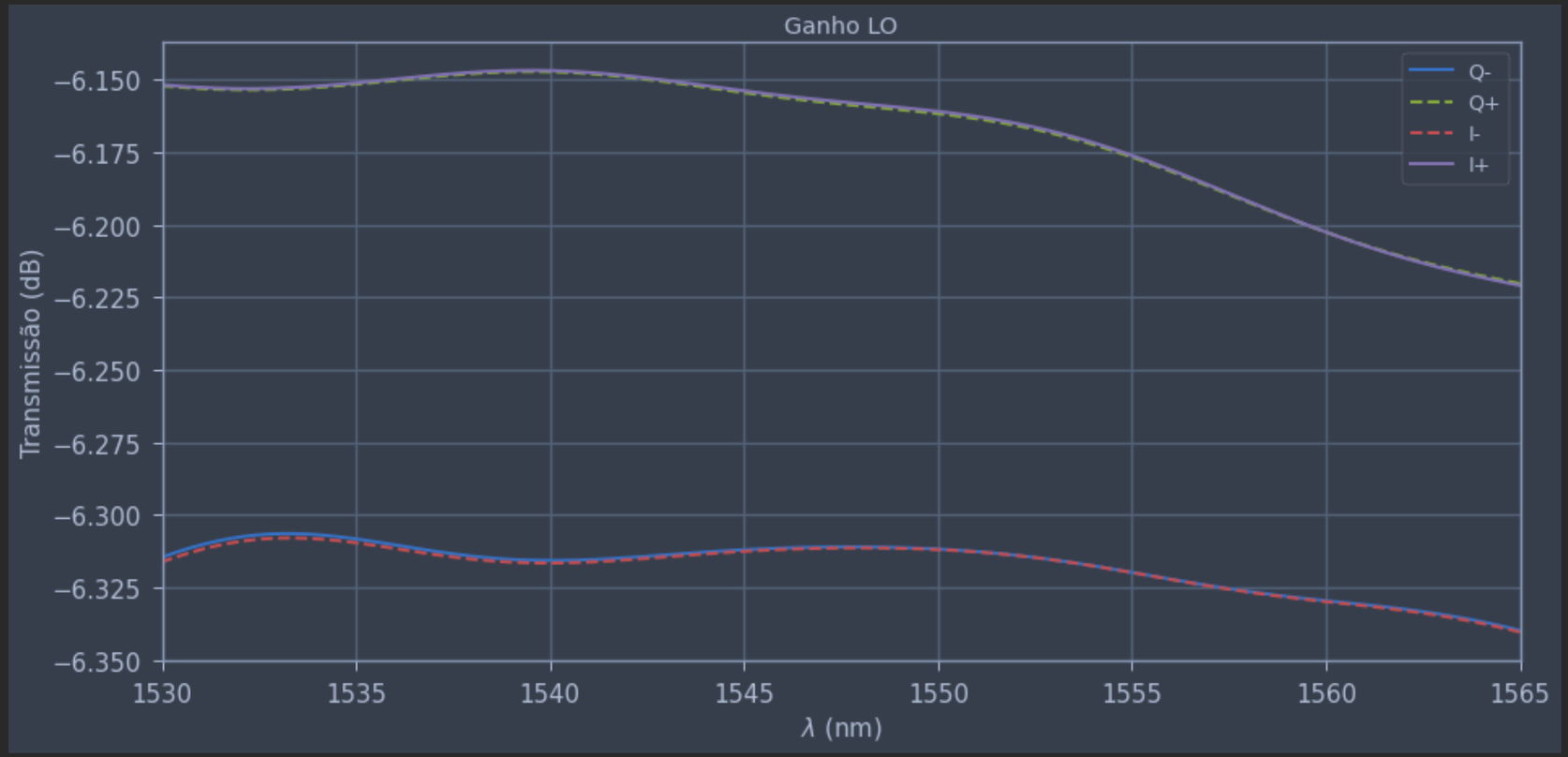
Resultados, Porta LO





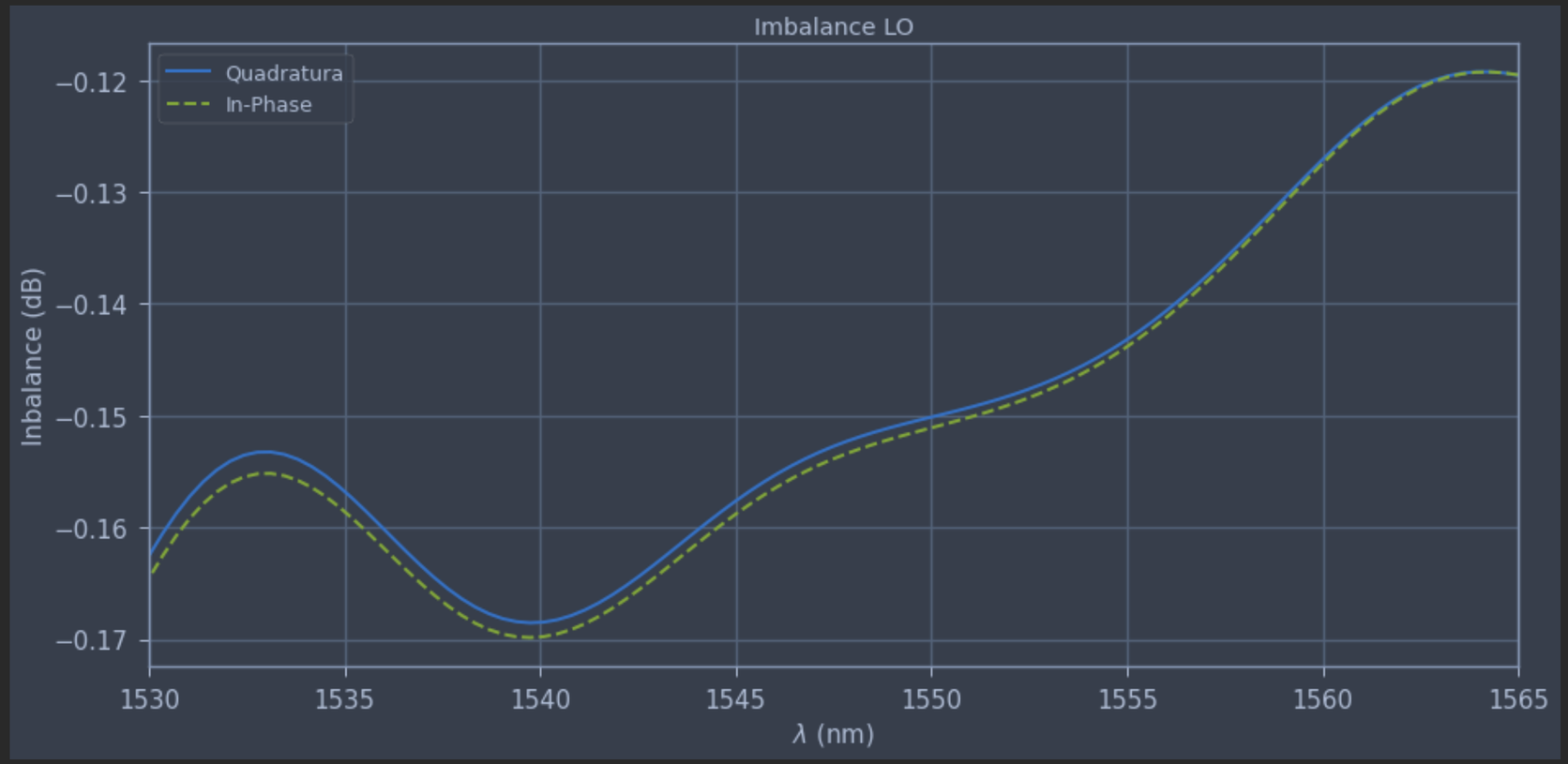
Simulação FDTD

Resultados, Porta LO



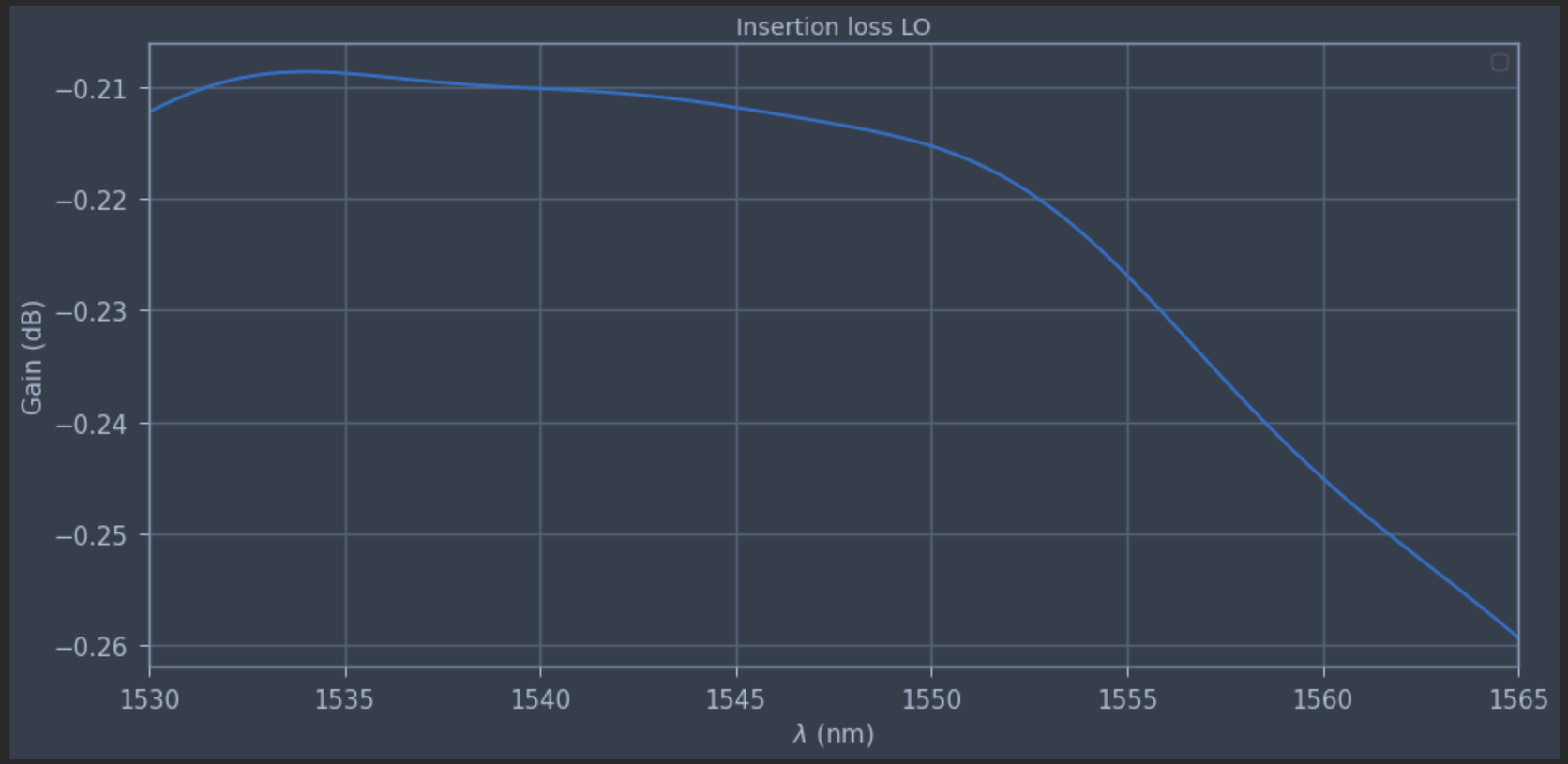
Simulação FDTD

Resultados, Porta LO



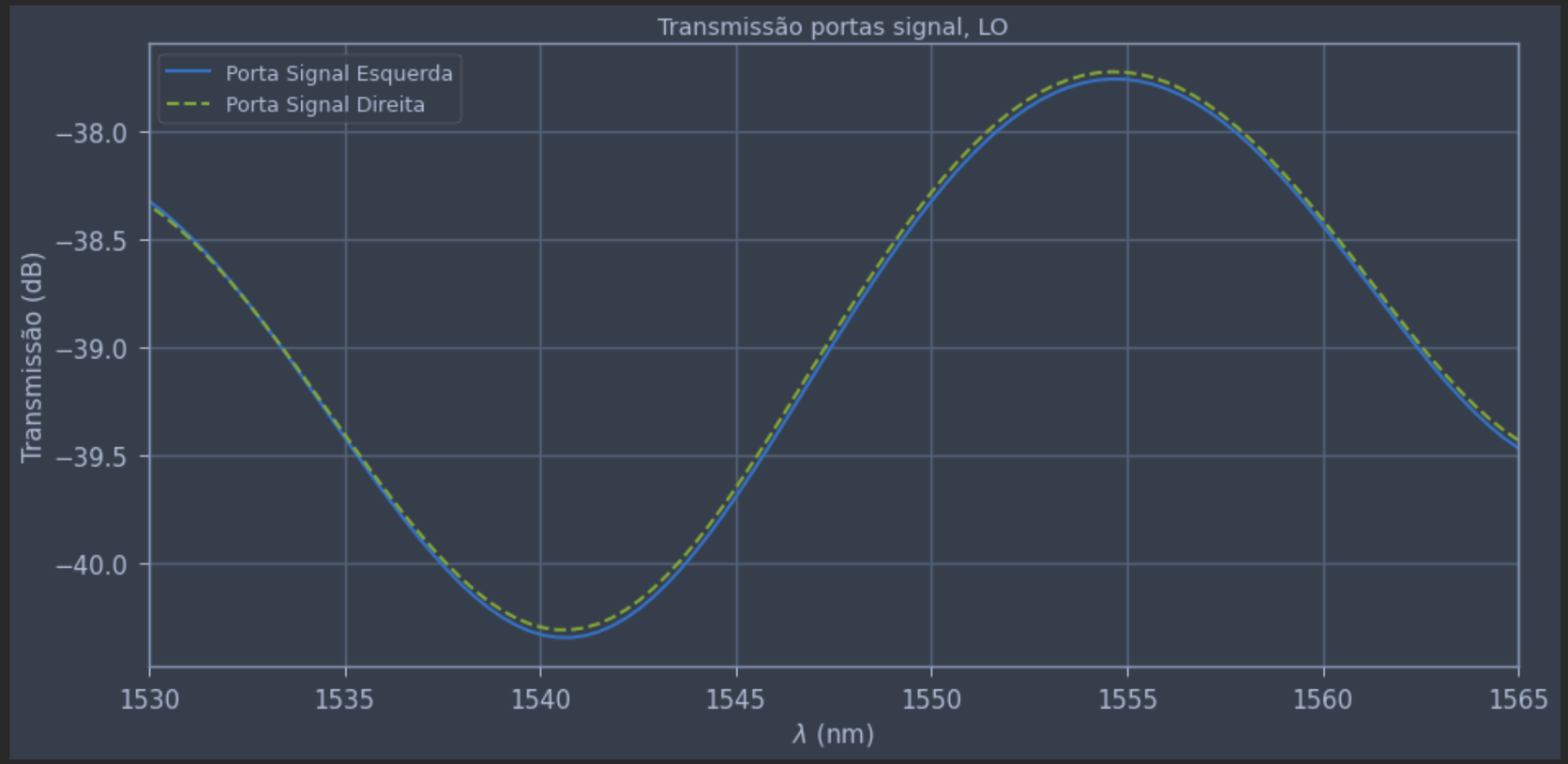
Simulação FDTD

Resultados, Porta LO



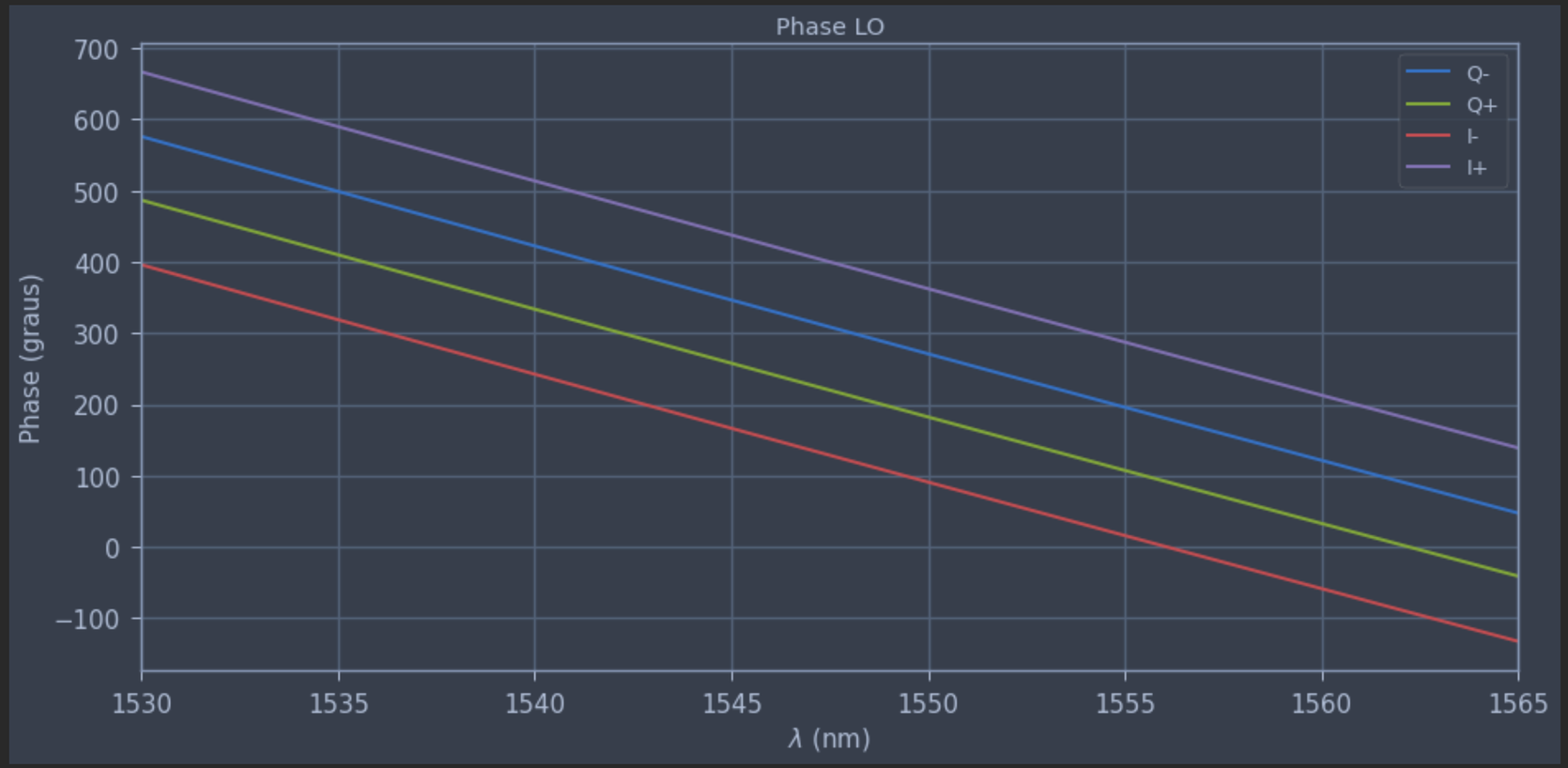
Simulação FDTD

Resultados, Porta LO



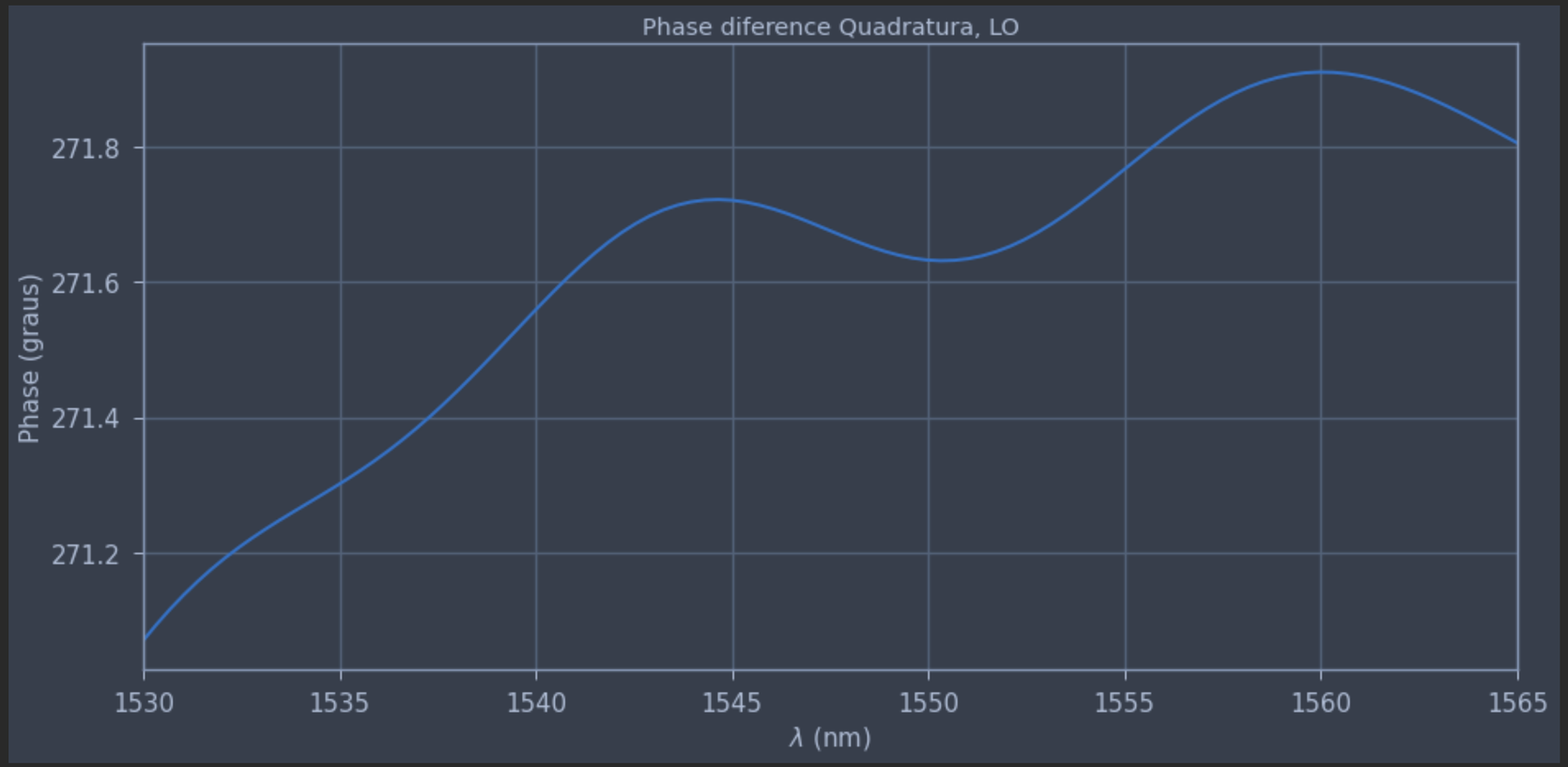
Simulação FDTD

Resultados, Porta LO



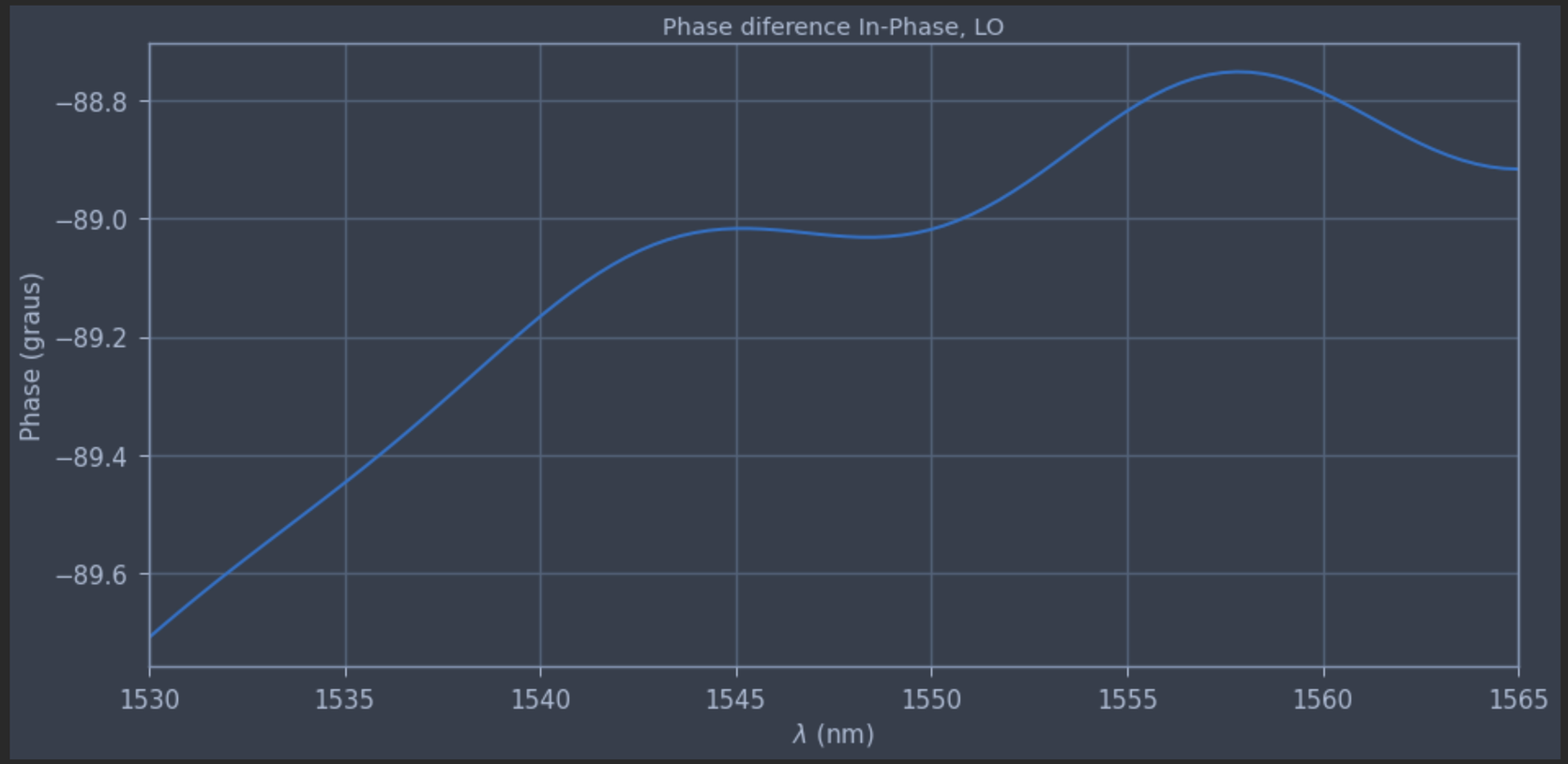
Simulação FDTD

Resultados, Porta LO



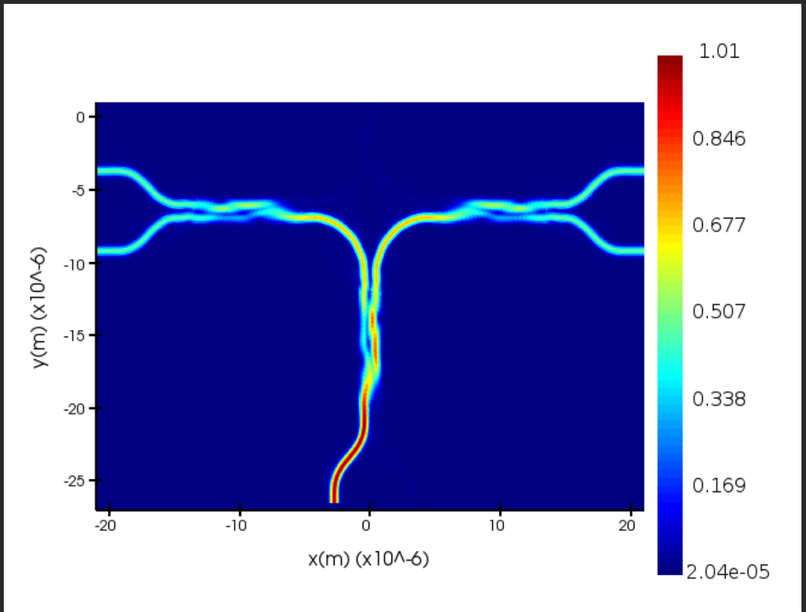
Simulação FDTD

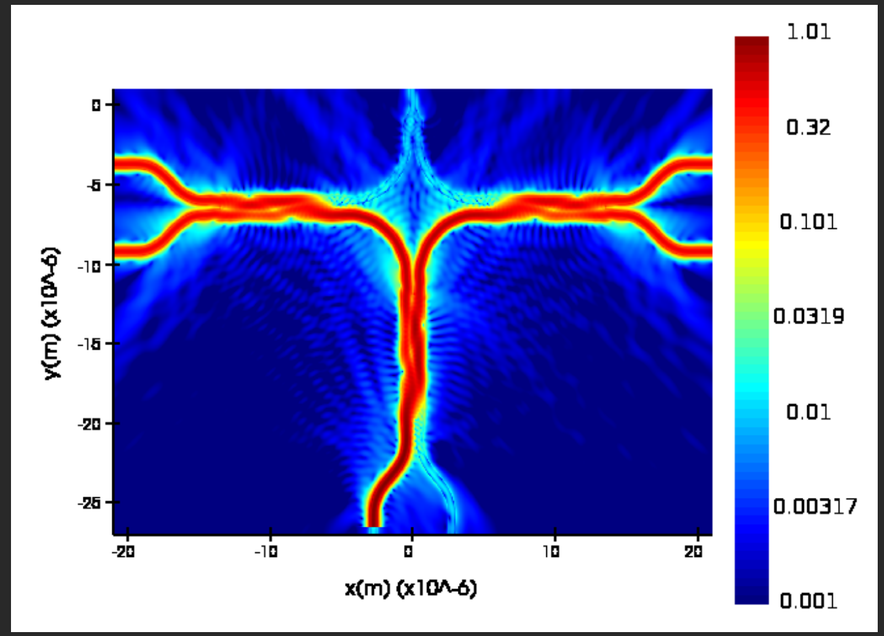
Resultados, Porta LO



Simulação FDTD

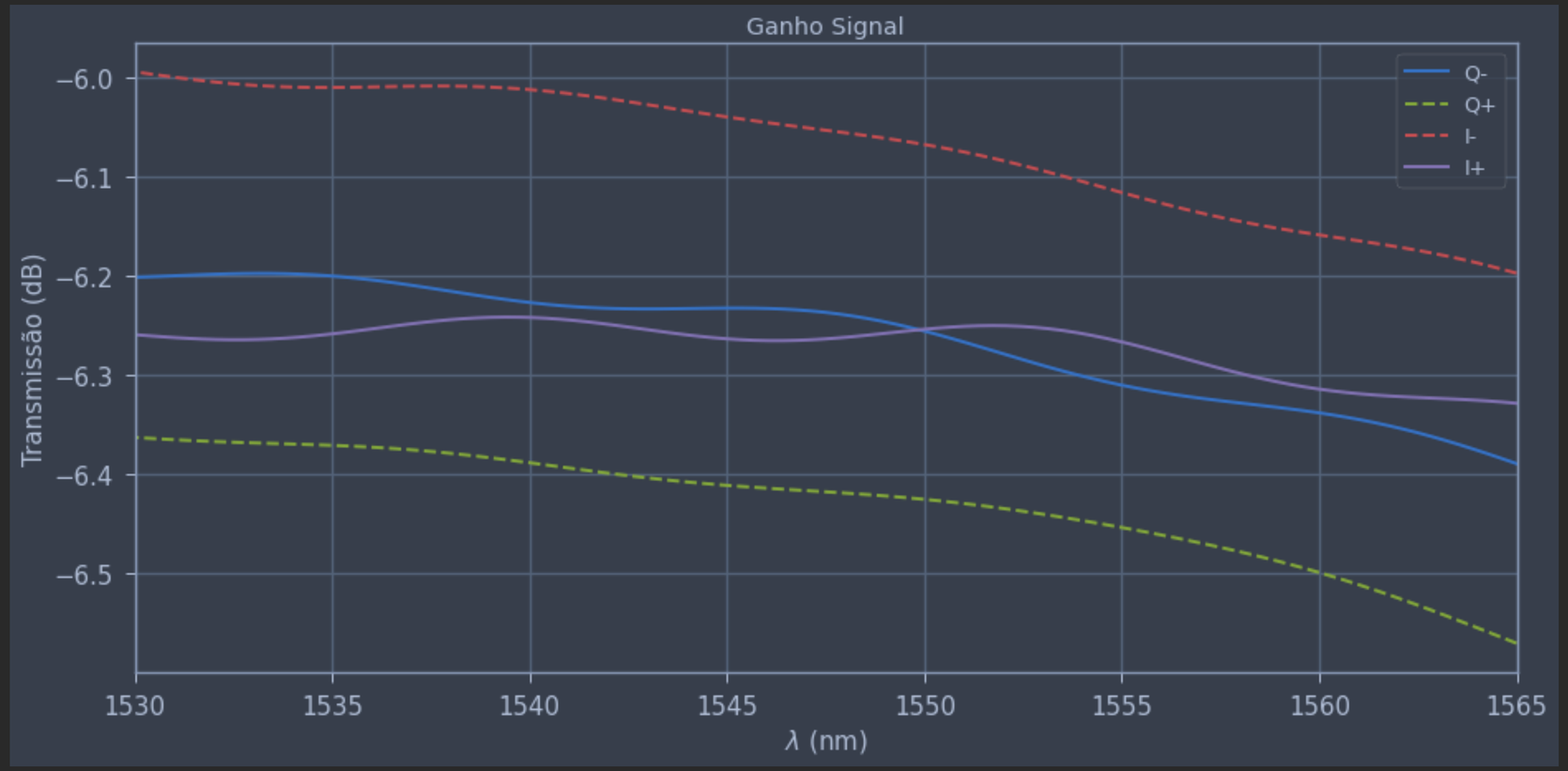
Resultados, Porta Signal





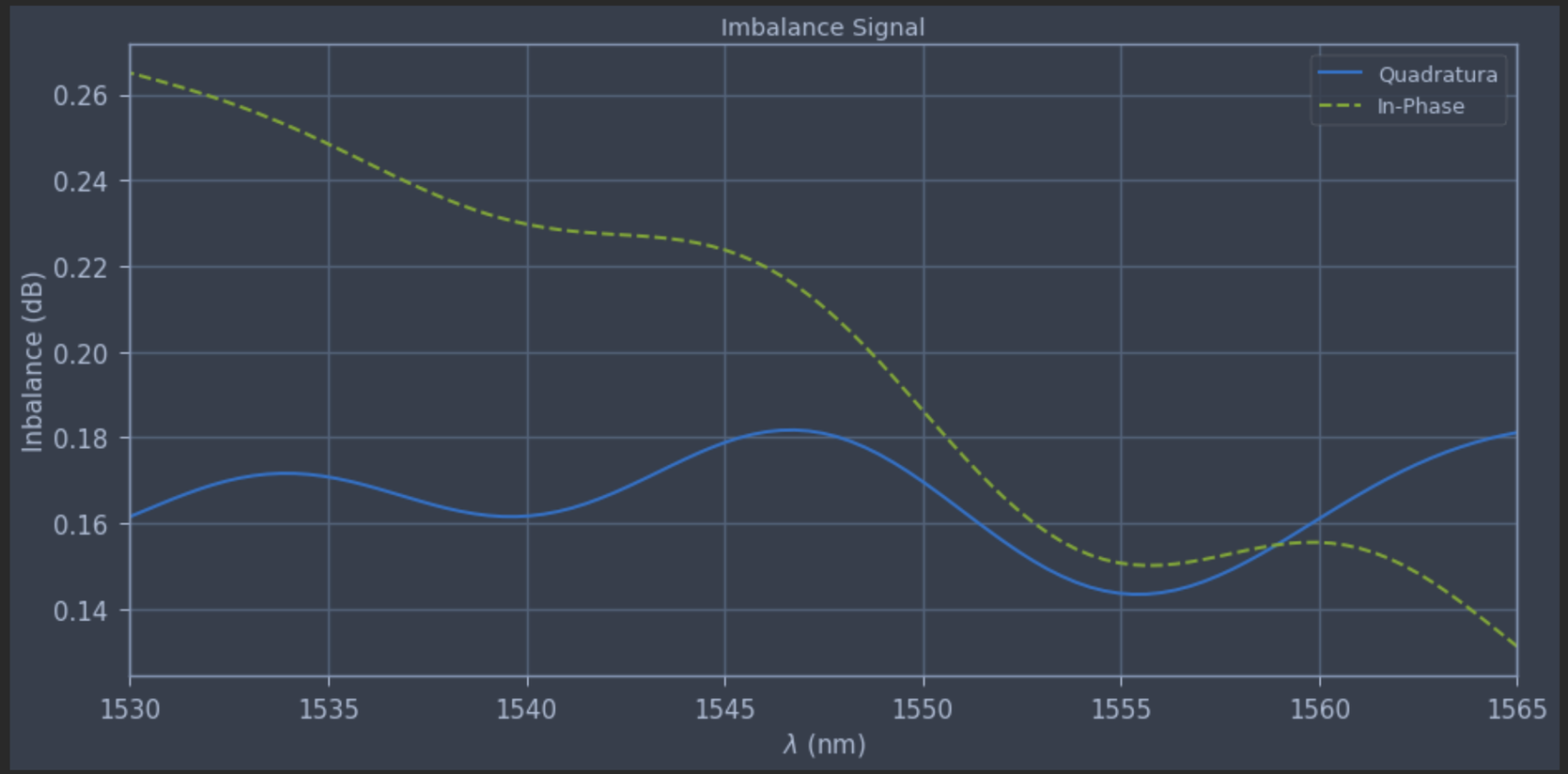
Simulação FDTD

Resultados, Porta Signal



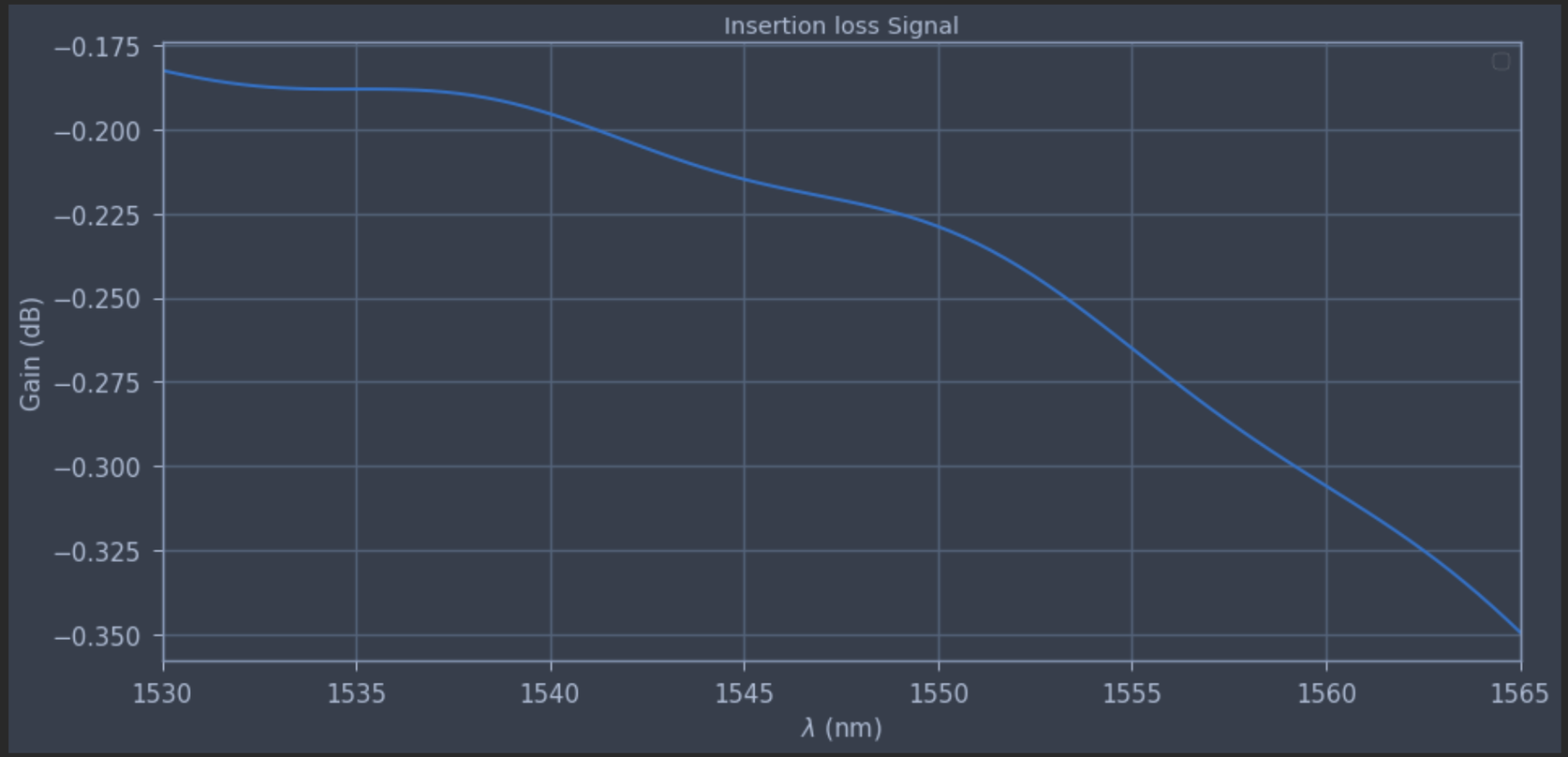
Simulação FDTD

Resultados, Porta Signal



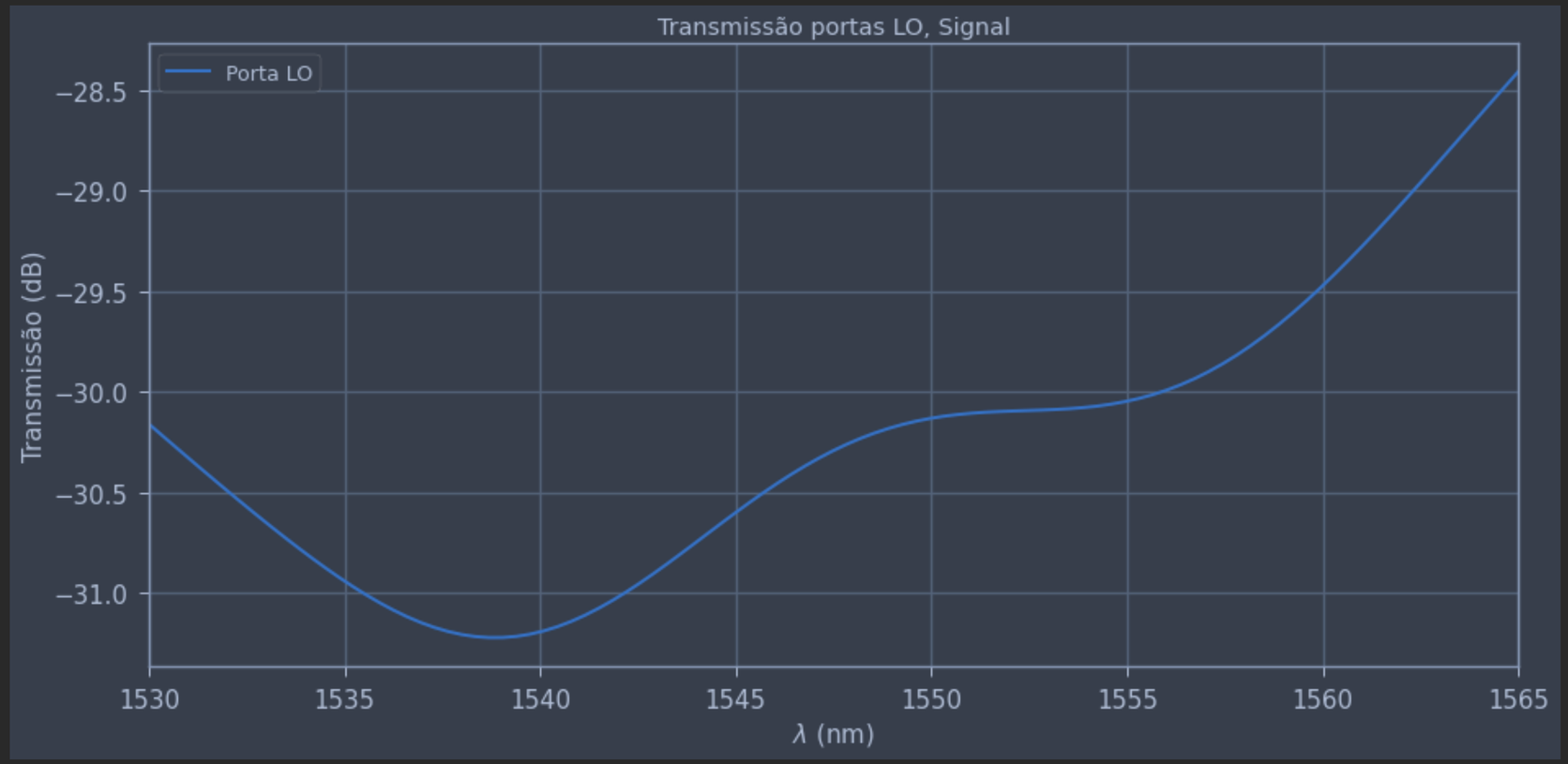
Simulação FDTD

Resultados, Porta Signal



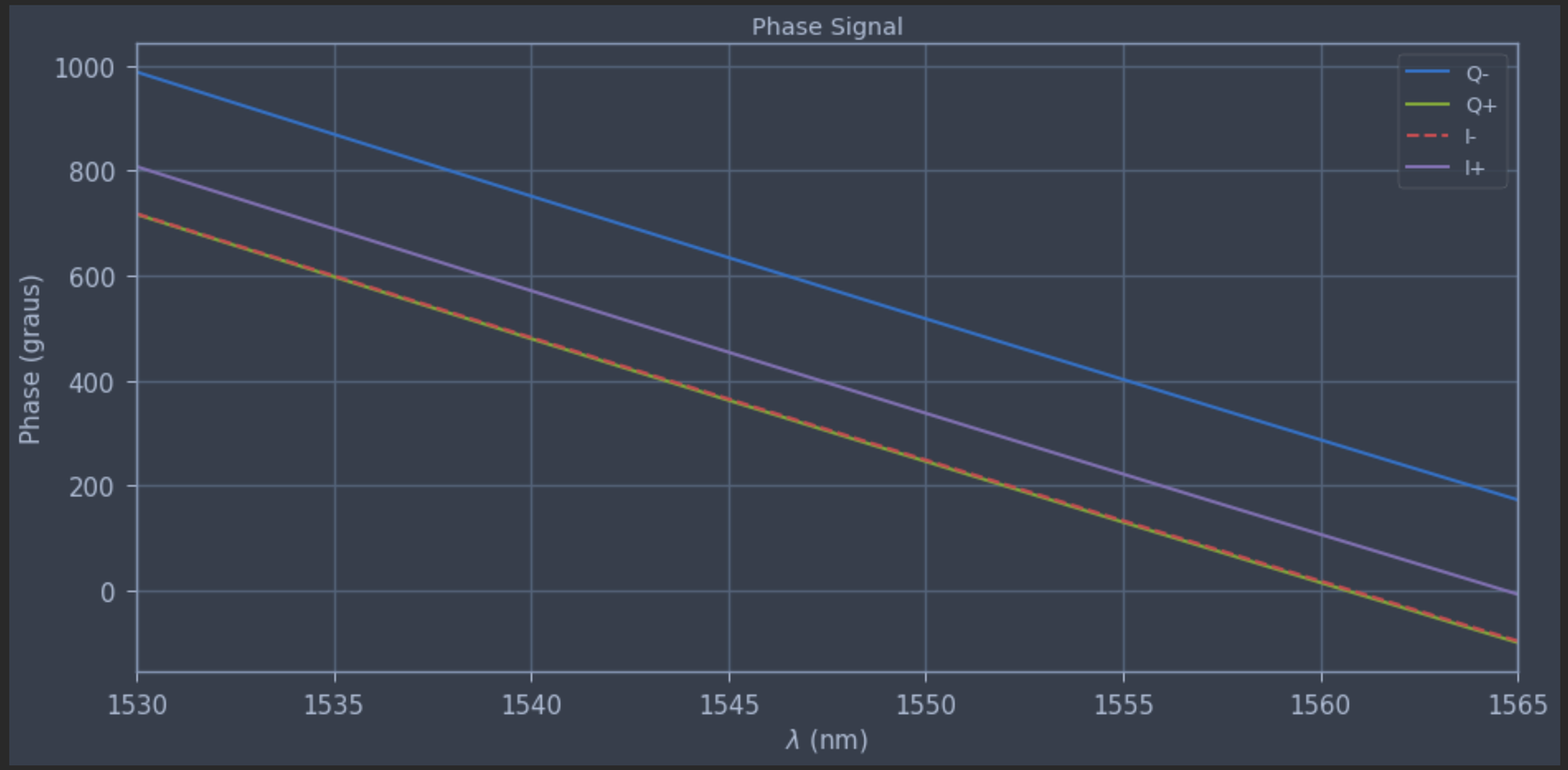
Simulação FDTD

Resultados, Porta Signal



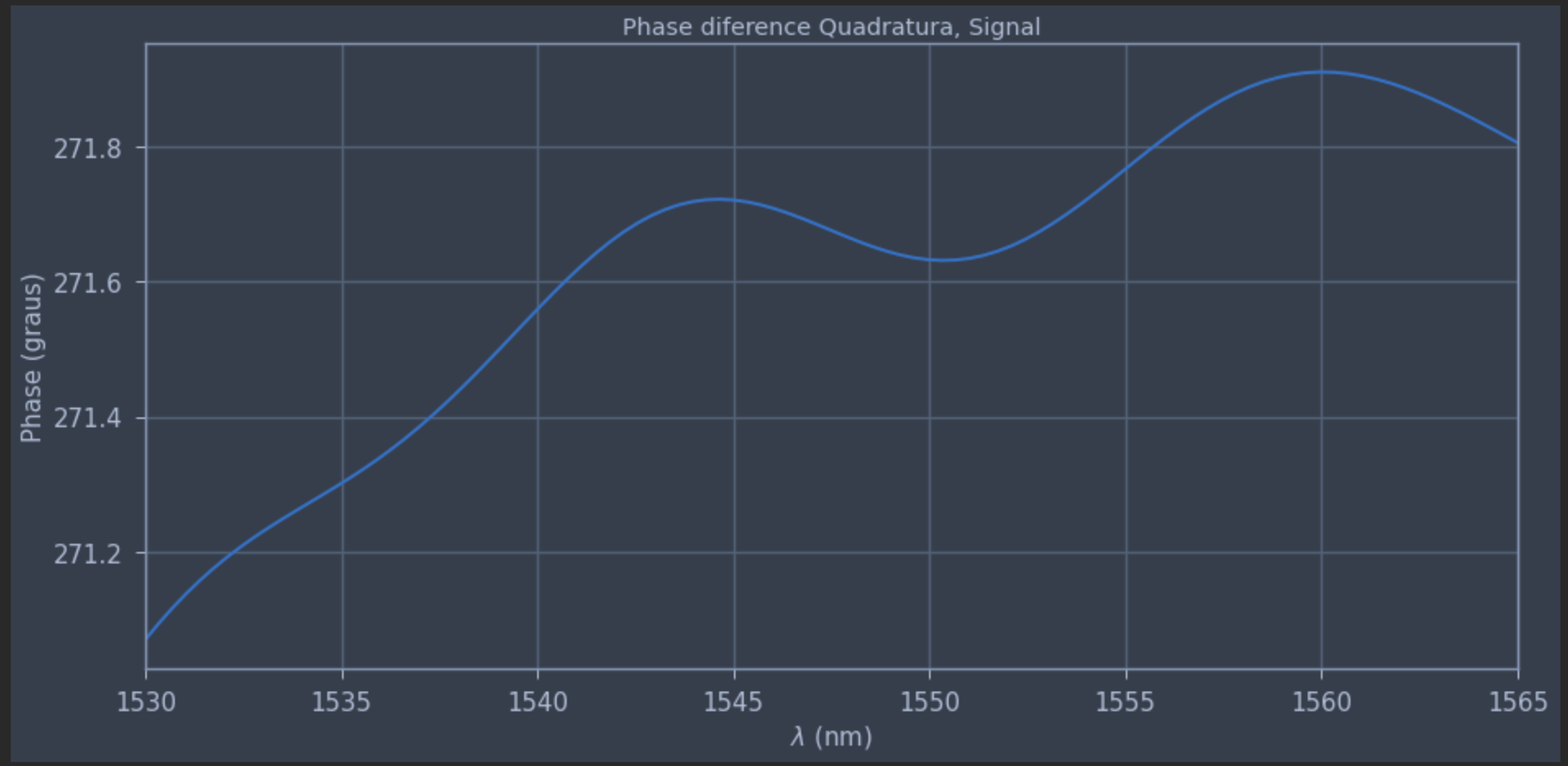
Simulação FDTD

Resultados, Porta Signal



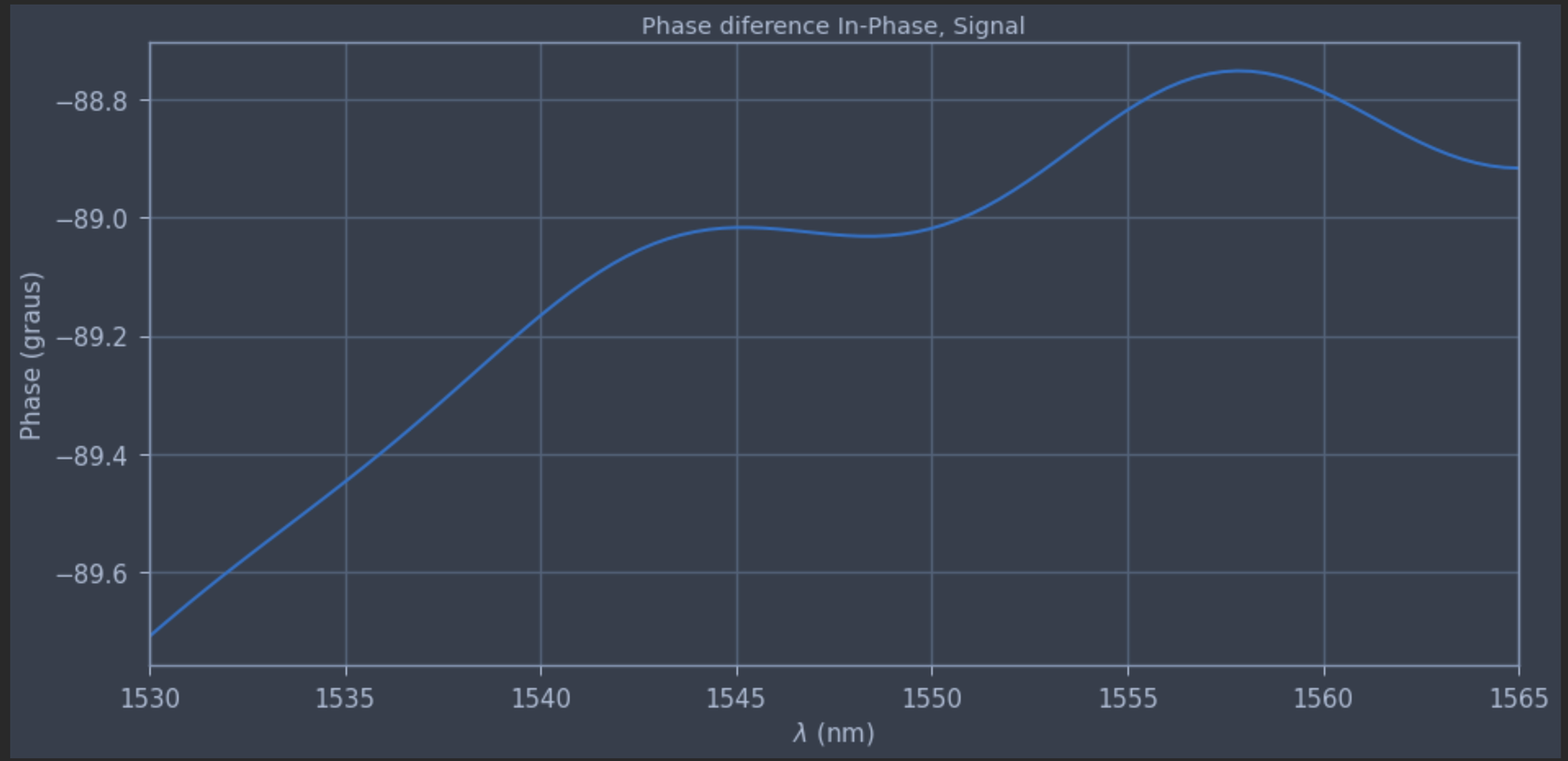
Simulação FDTD

Resultados, Porta Signal



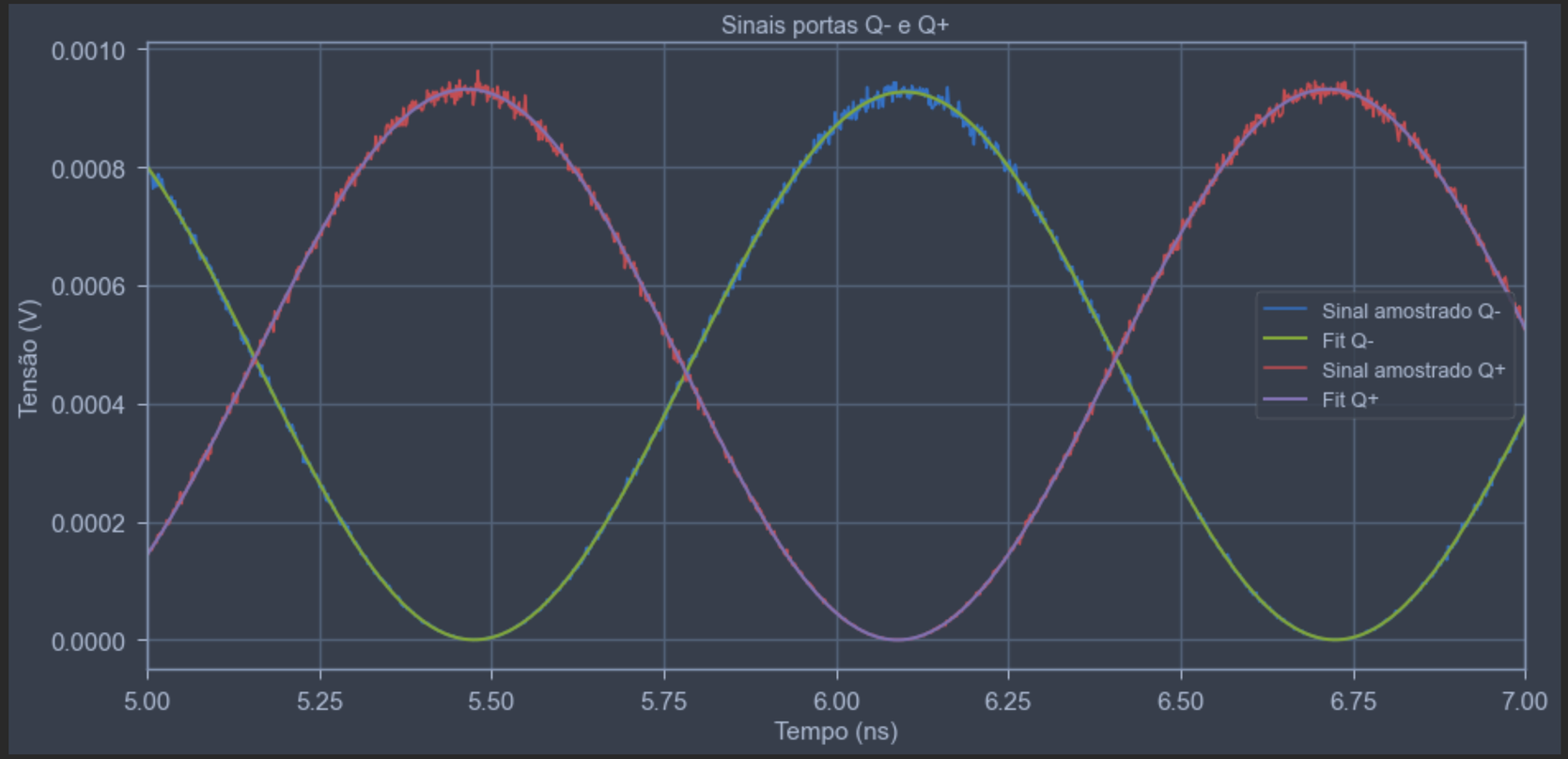
Simulação FDTD

Resultados, Porta Signal



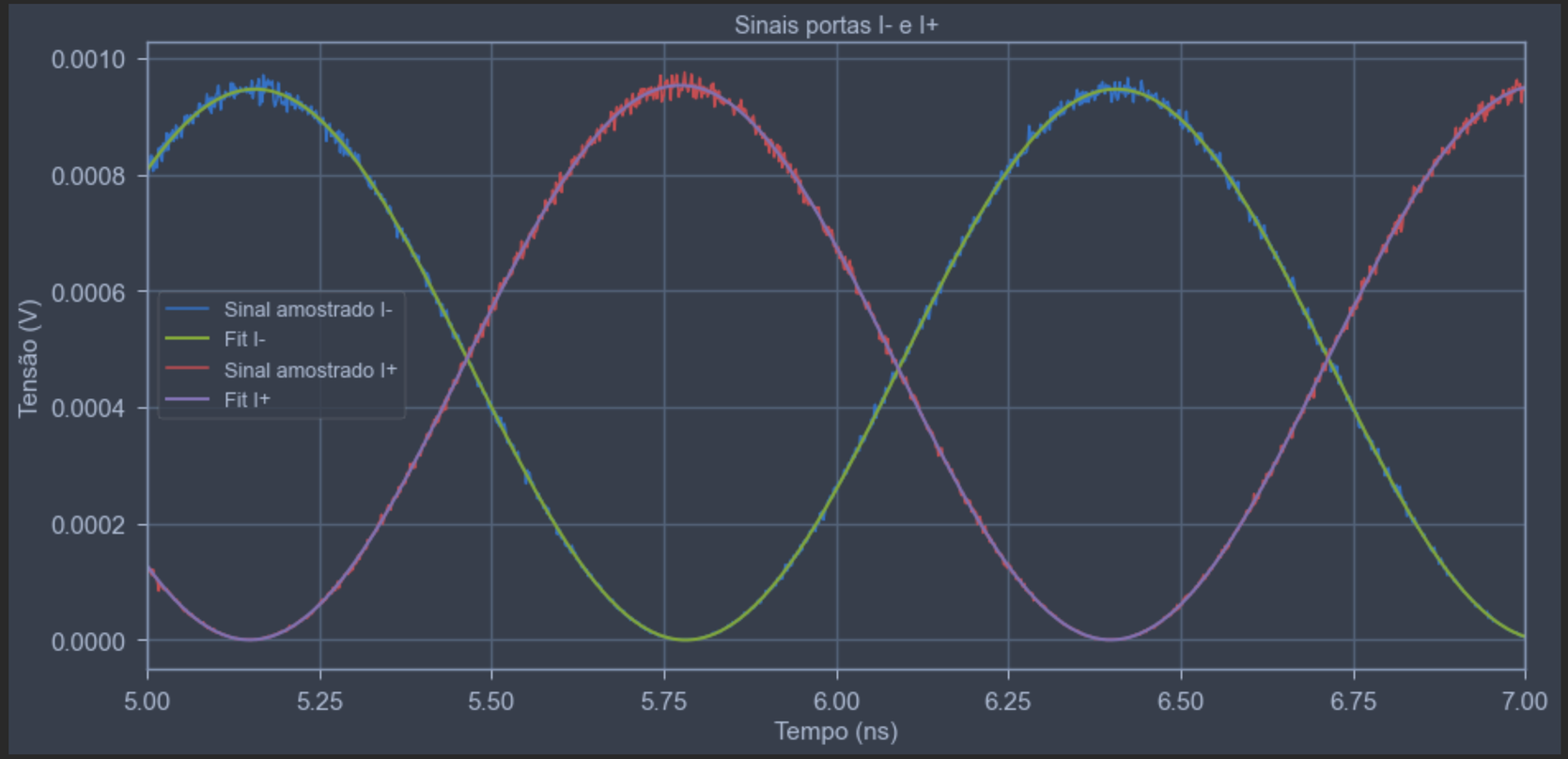
Simulação FDTD

Diferença de fase experimental



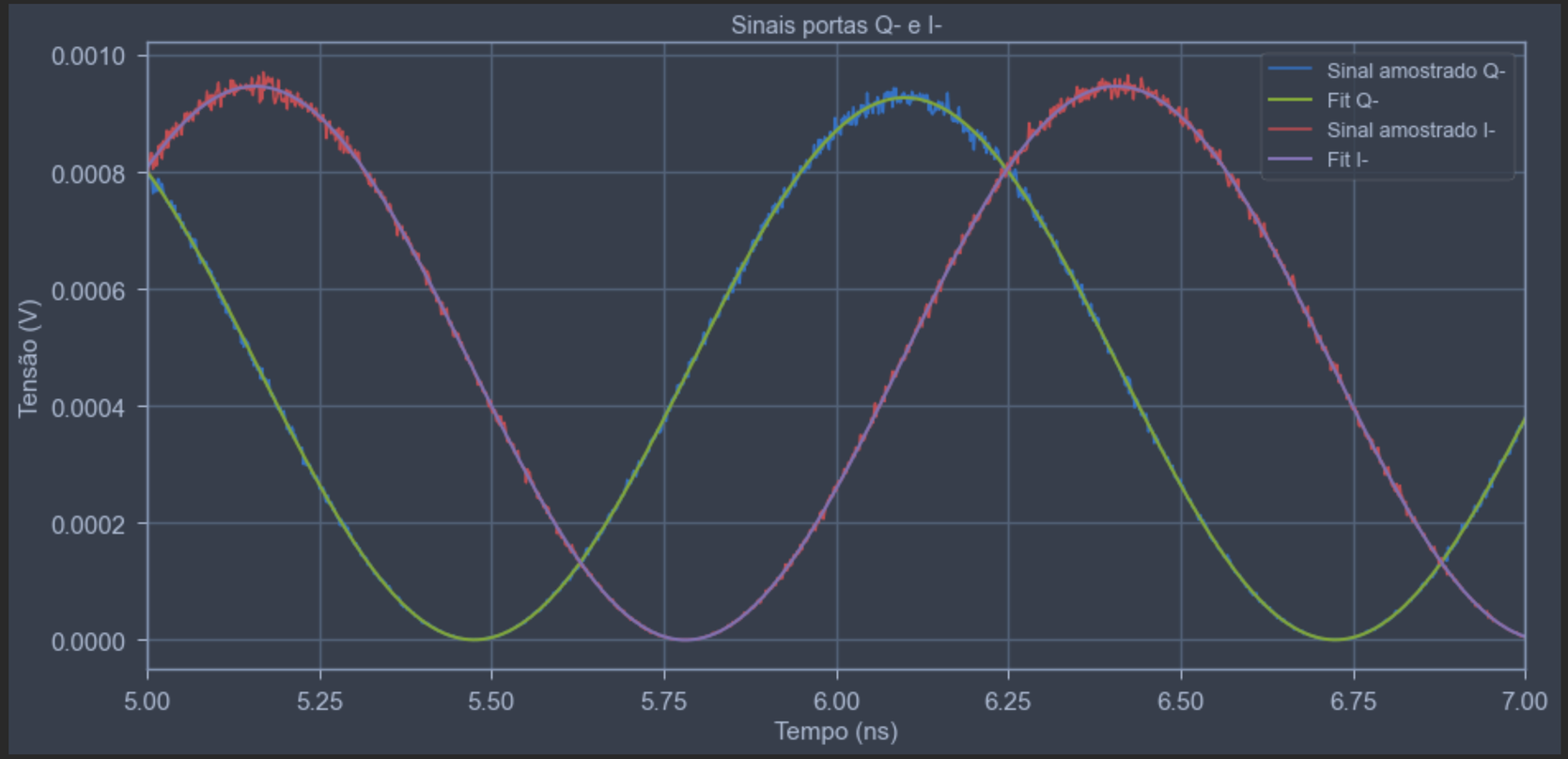
Simulação FDTD

Diferença de fase experimental



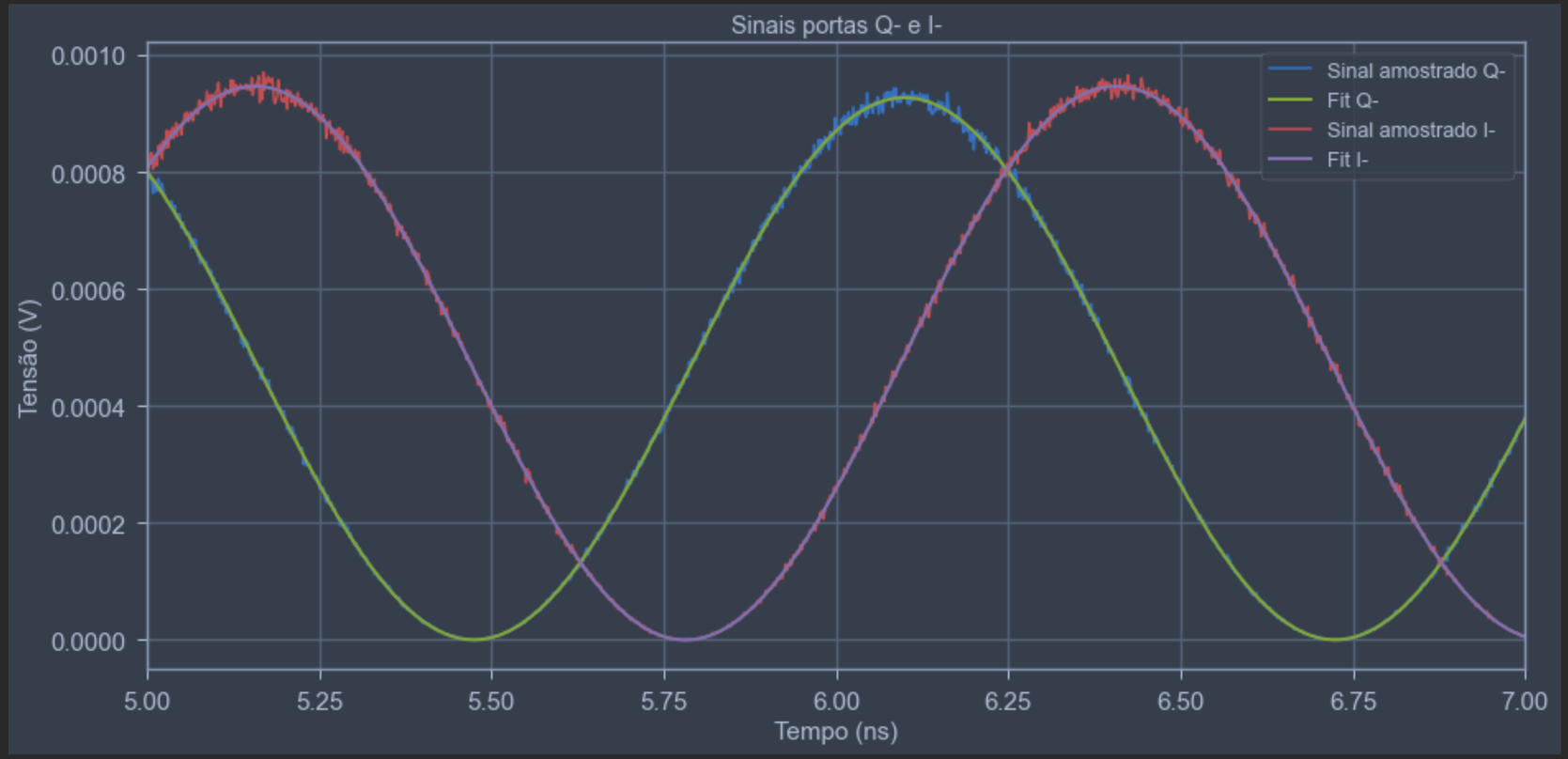
Simulação FDTD

Diferença de fase experimental



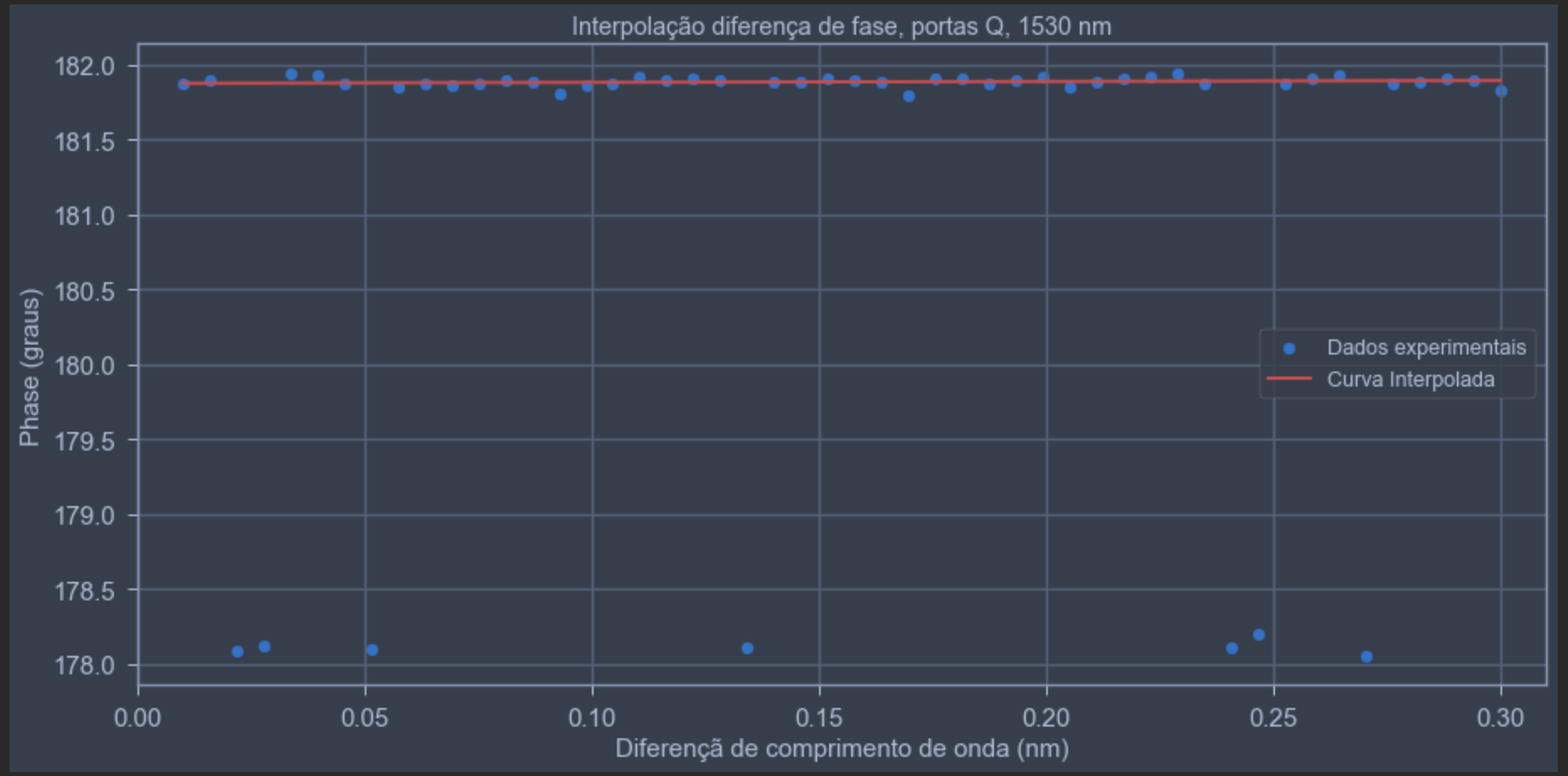
Simulação FDTD

Diferença de fase experimental



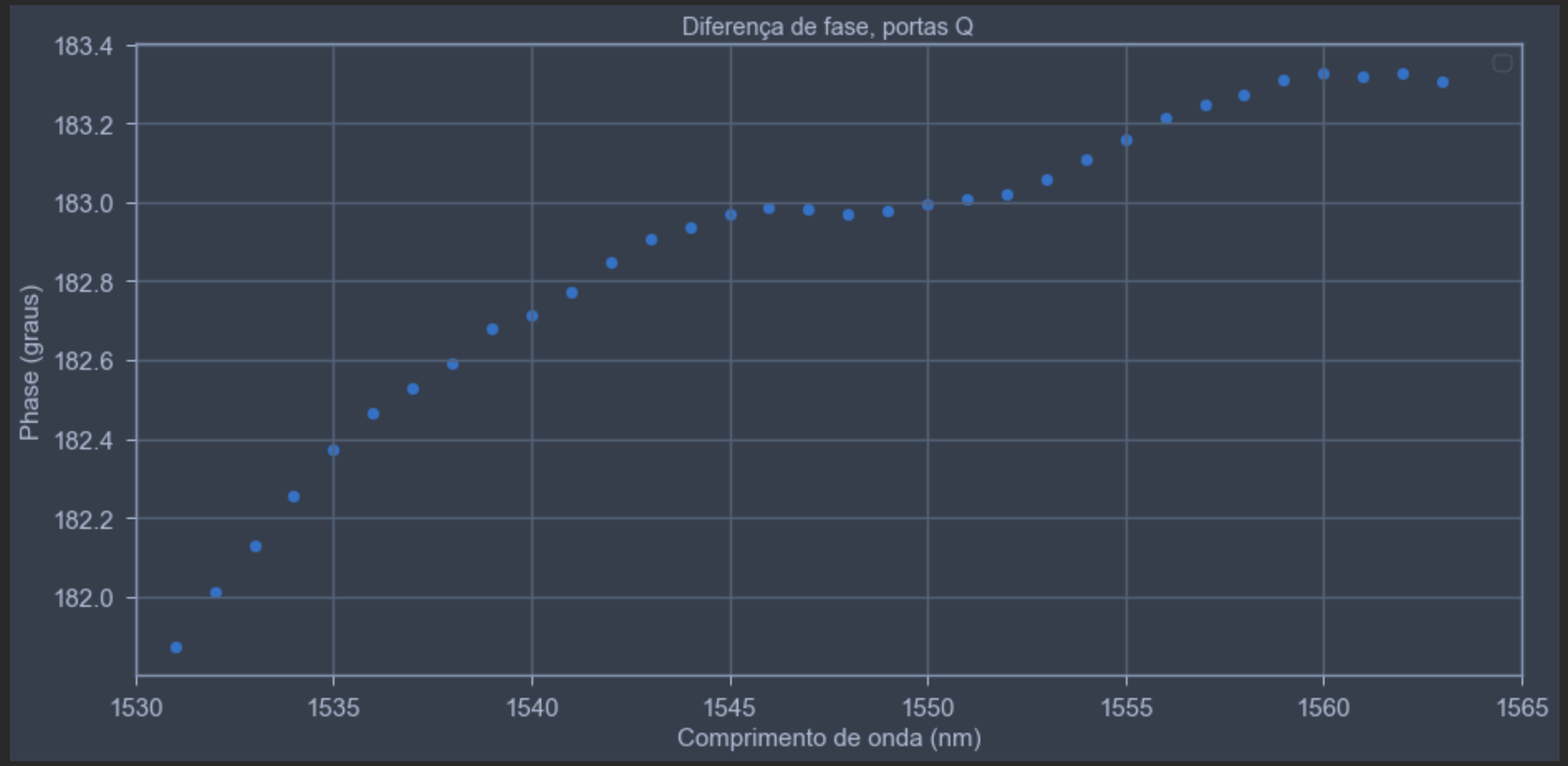
Simulação FDTD

Diferença de fase experimental



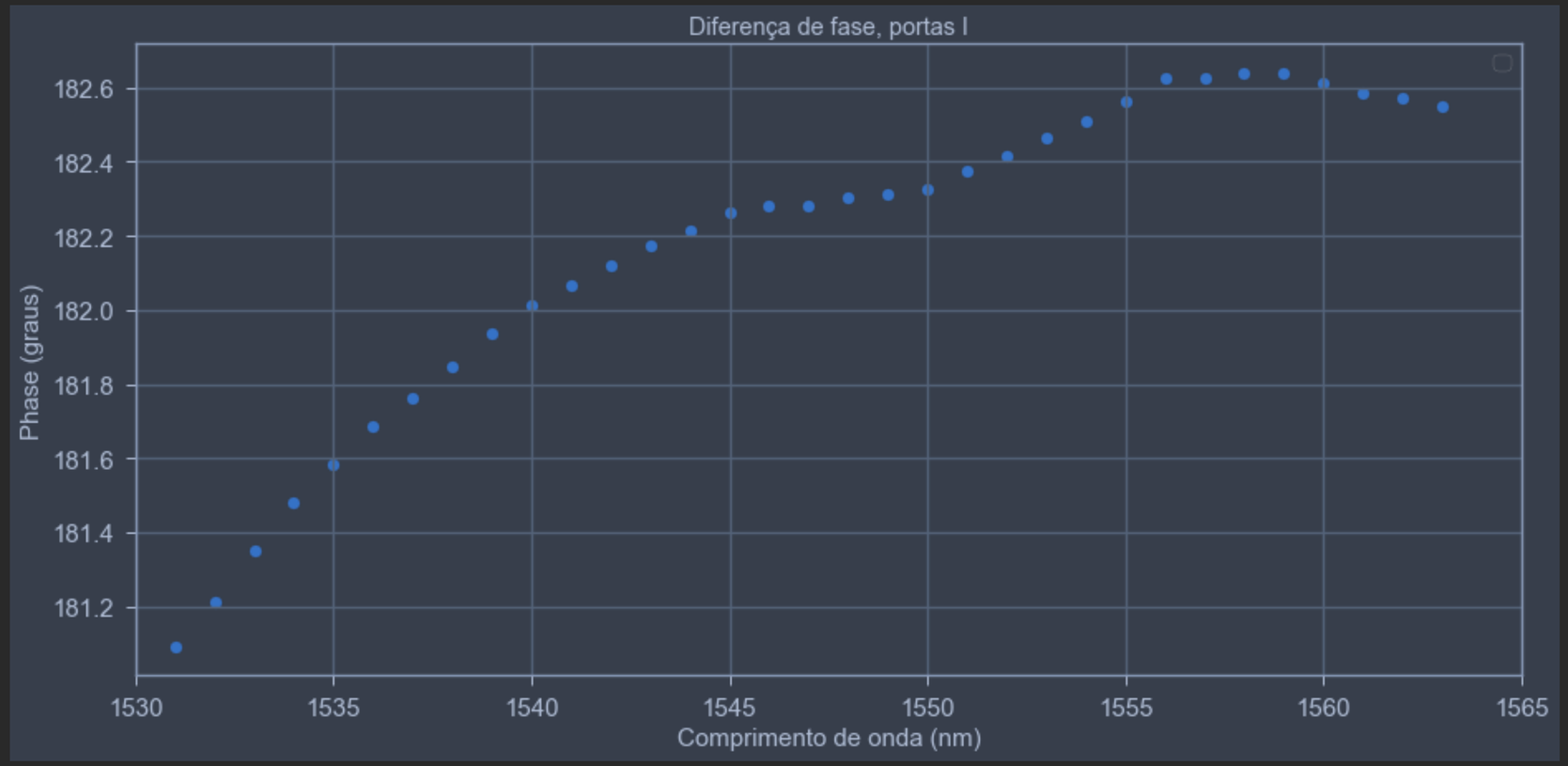
Simulação FDTD

Diferença de fase experimental



Simulação FDTD

Diferença de fase experimental



Simulação FDTD

Diferença de fase experimental