

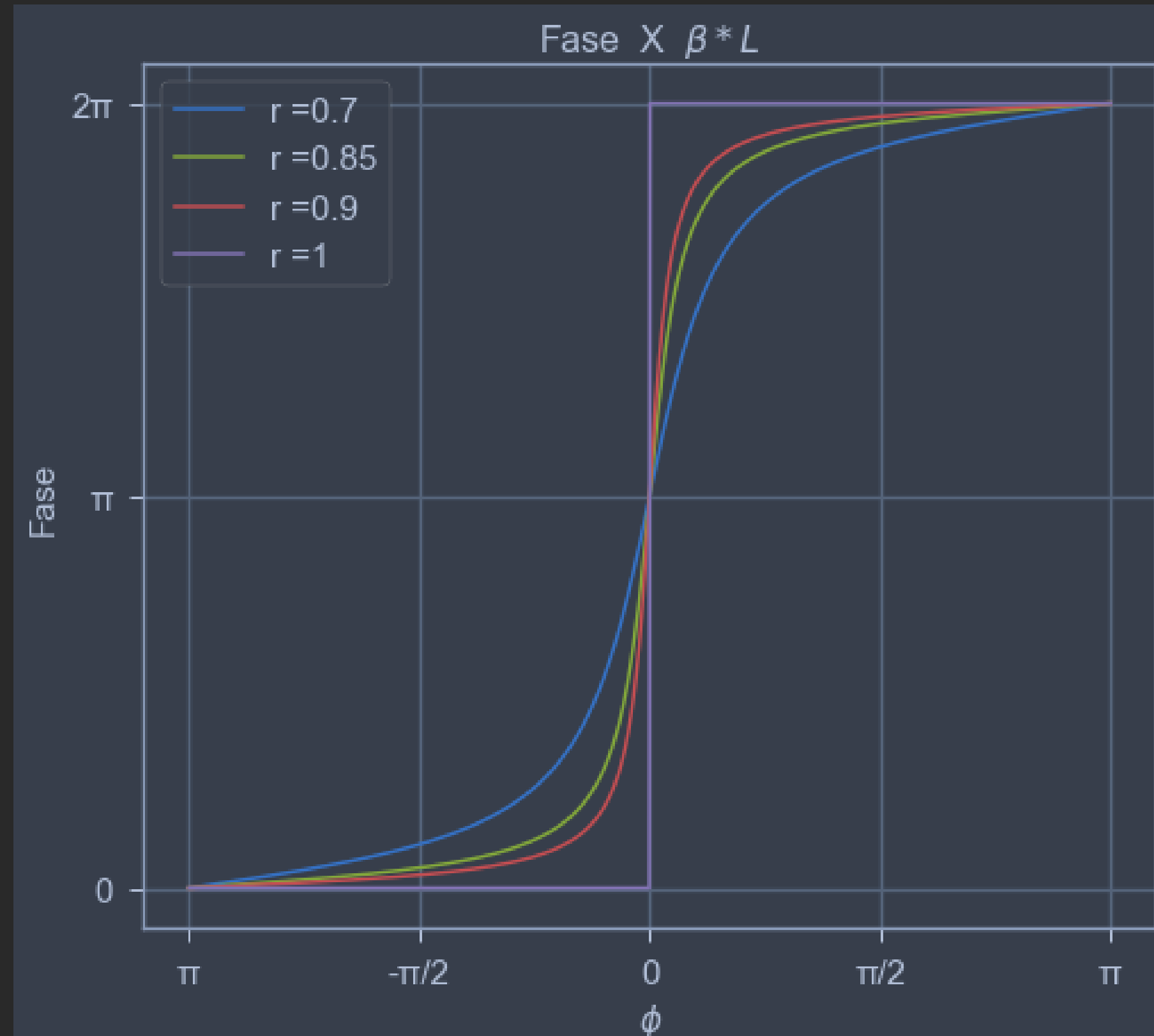
DESIGN

ANEL DE RESSONANCIA

SEMANA 1 E 2

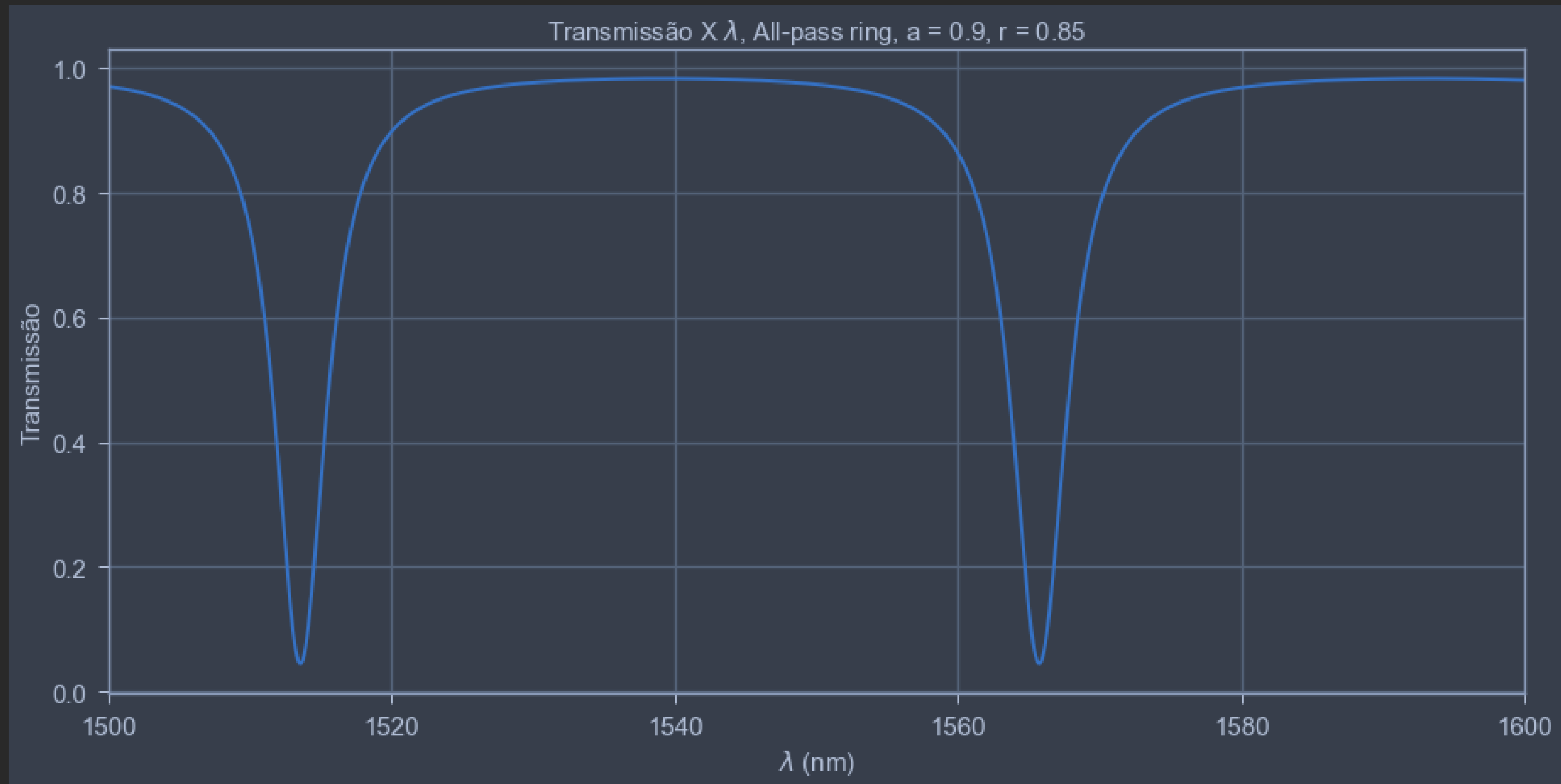
ESTUDO DE REFERENCIAS

GRÁFICOS TEÓRICOS



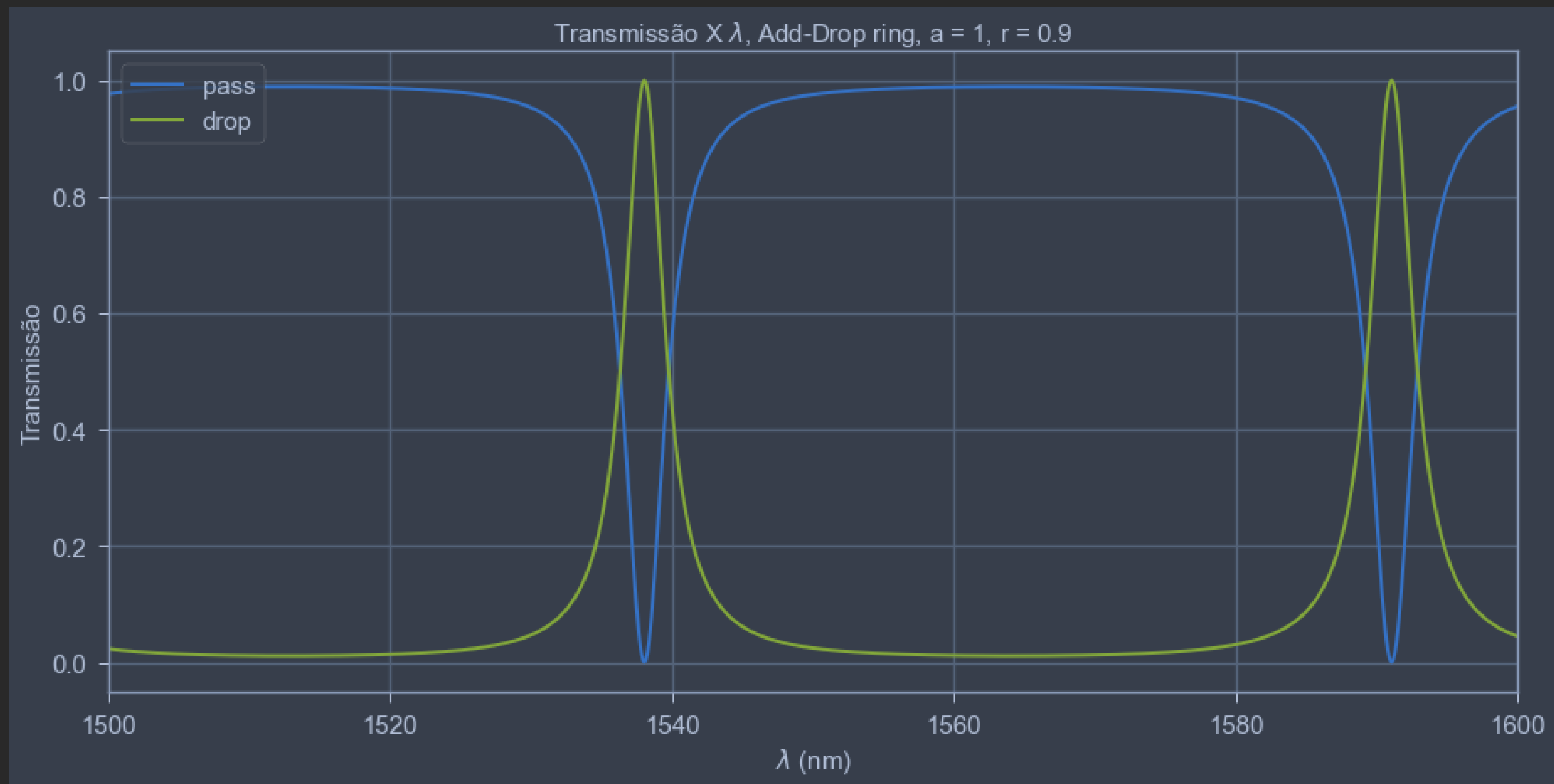
GRÁFICOS TEÓRICOS

Transmissão All pass ring



GRÁFICOS TEÓRICOS

Transmissão Add-drop ring



DESIGN DE UM ANEL DE RESSONÂNCIA

Especificações

FSR = 27.7 nm

MWHW = 0.88 nm

SOI in SiO₂

Guia: 0.45/0.22 μm

gap = 150 nm

Valores Teóricos

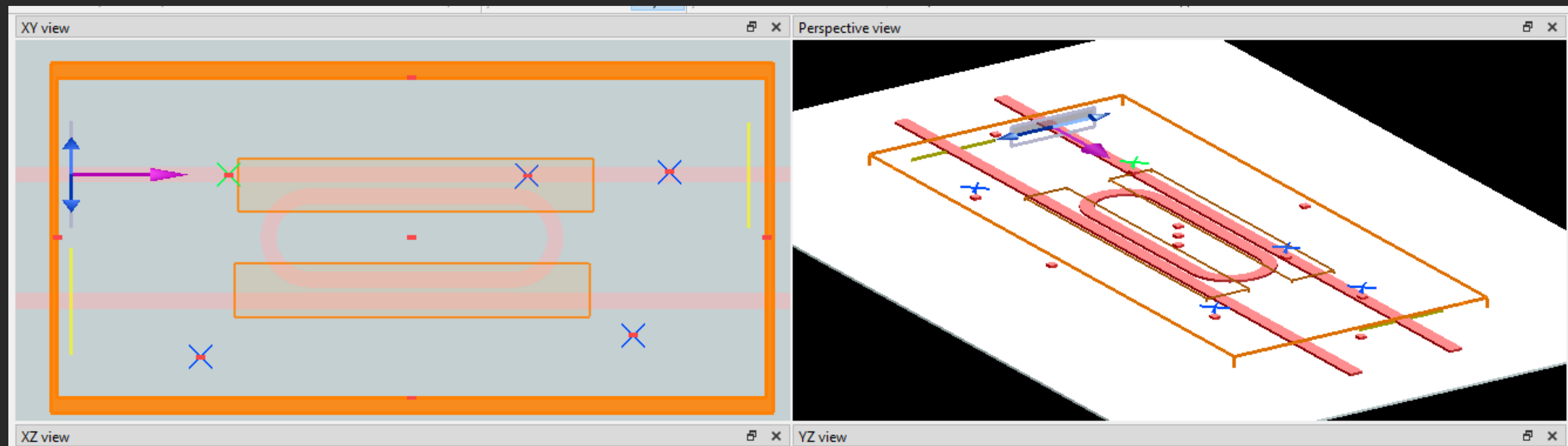
Comprimento total = 18.85 μm

Comprimento de acoplamento = 5.74 μm

Raio = 1.17 μm

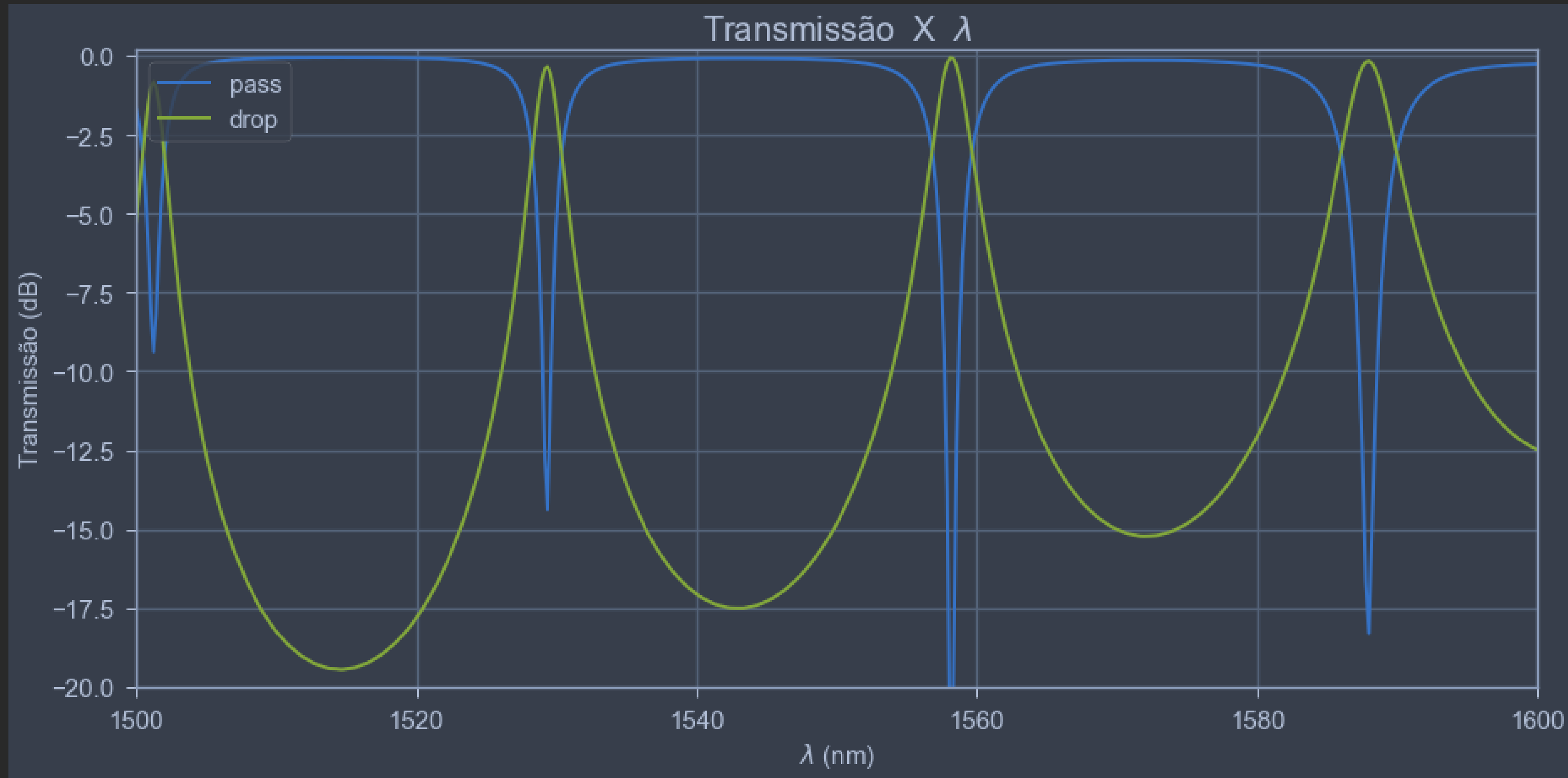
DESIGN DE UM ANEL DE RESSONÂNCIA

Simulação



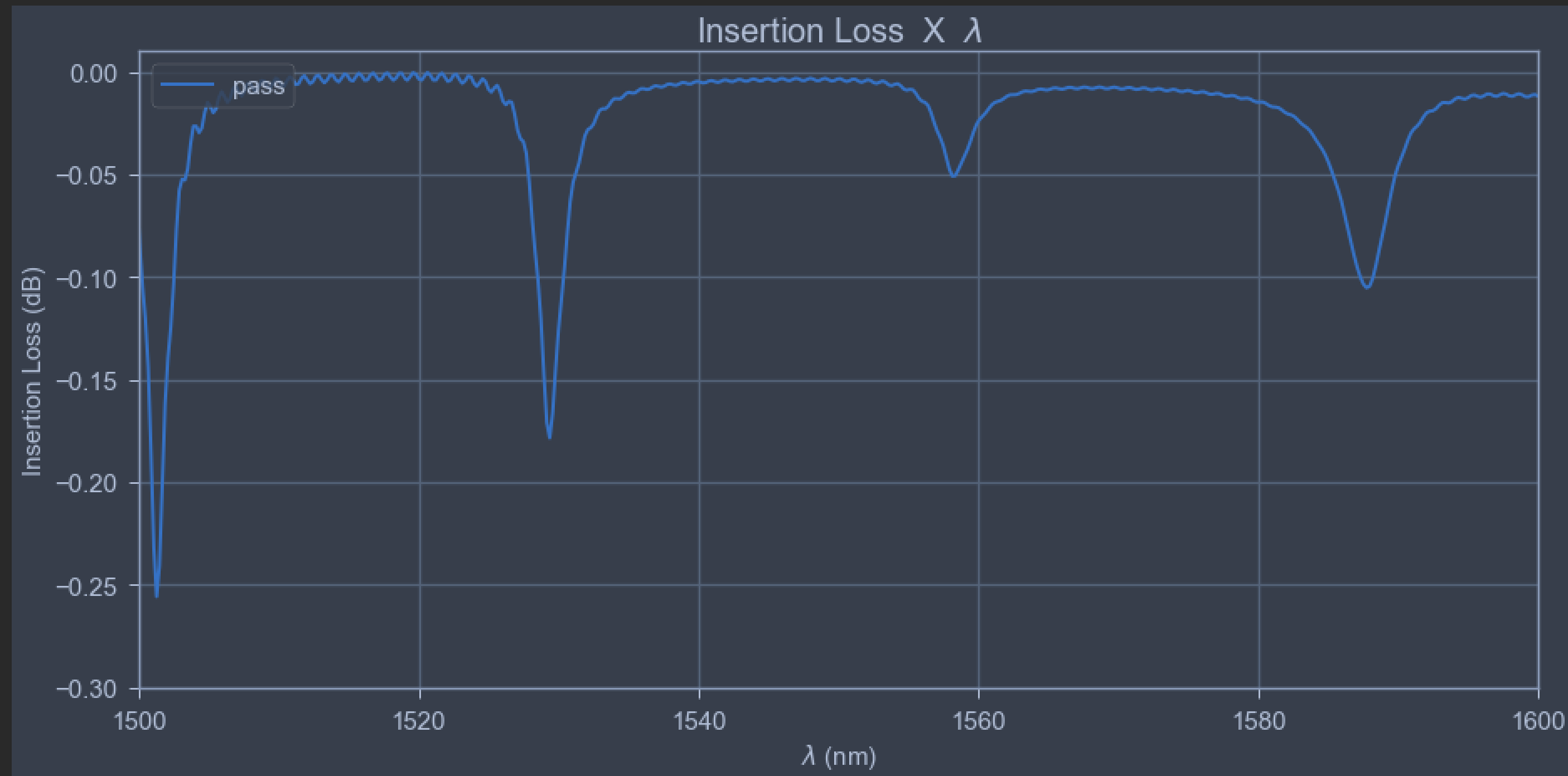
DESIGN DE UM ANEL DE RESSONÂNCIA

Resultados



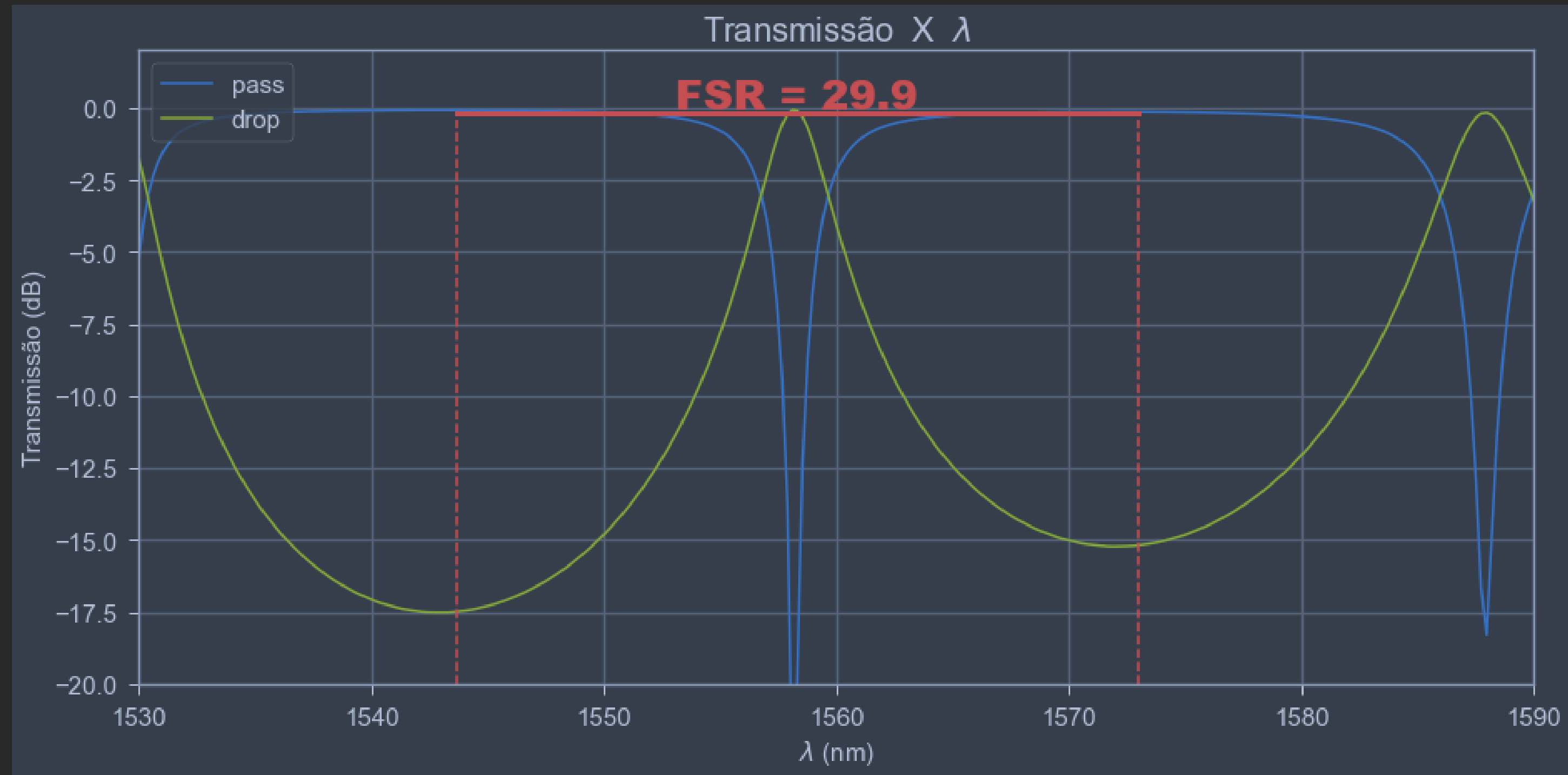
DESIGN DE UM ANEL DE RESSONÂNCIA

Resultados



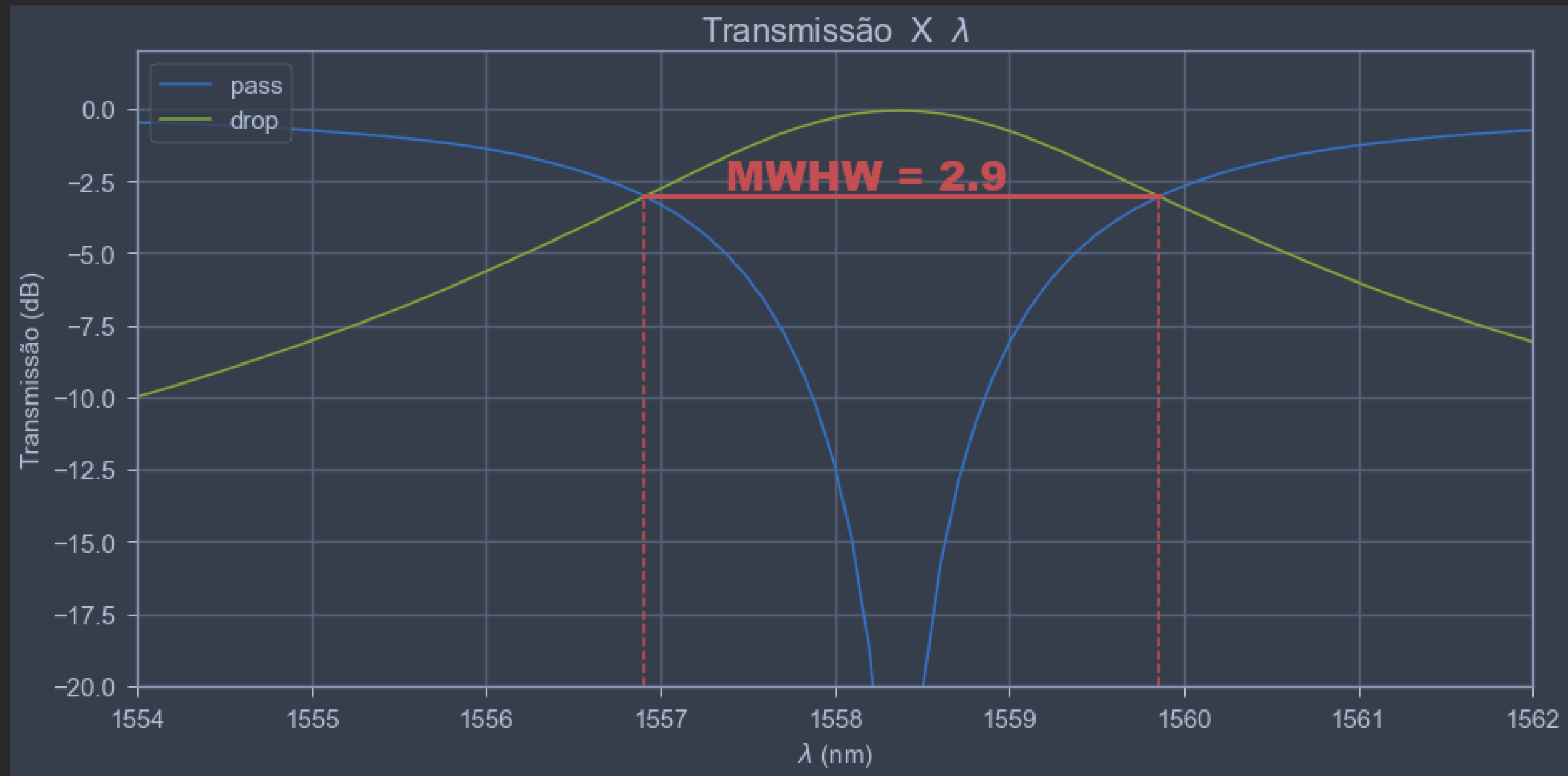
DESIGN DE UM ANEL DE RESSONÂNCIA

Resultados



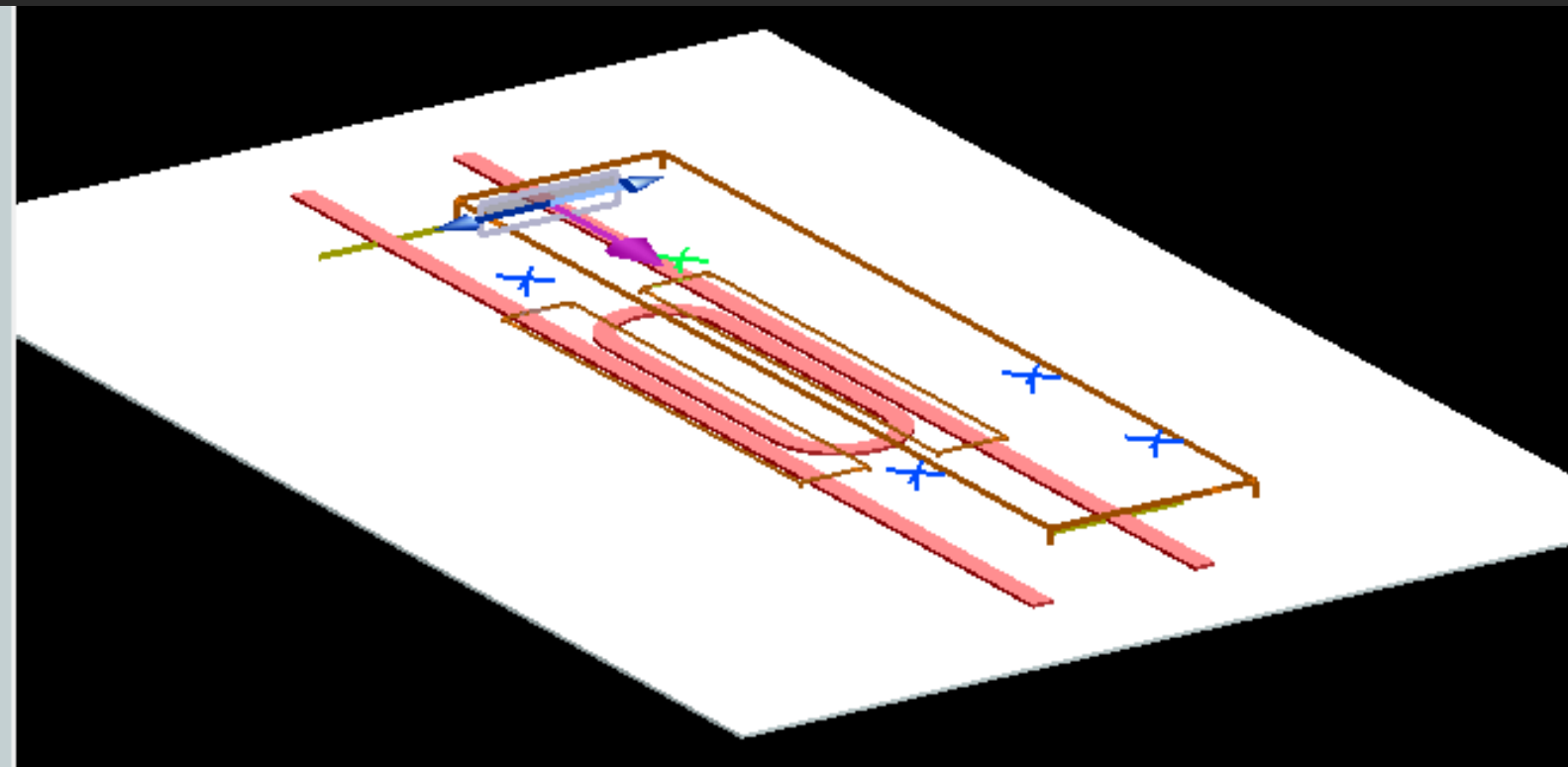
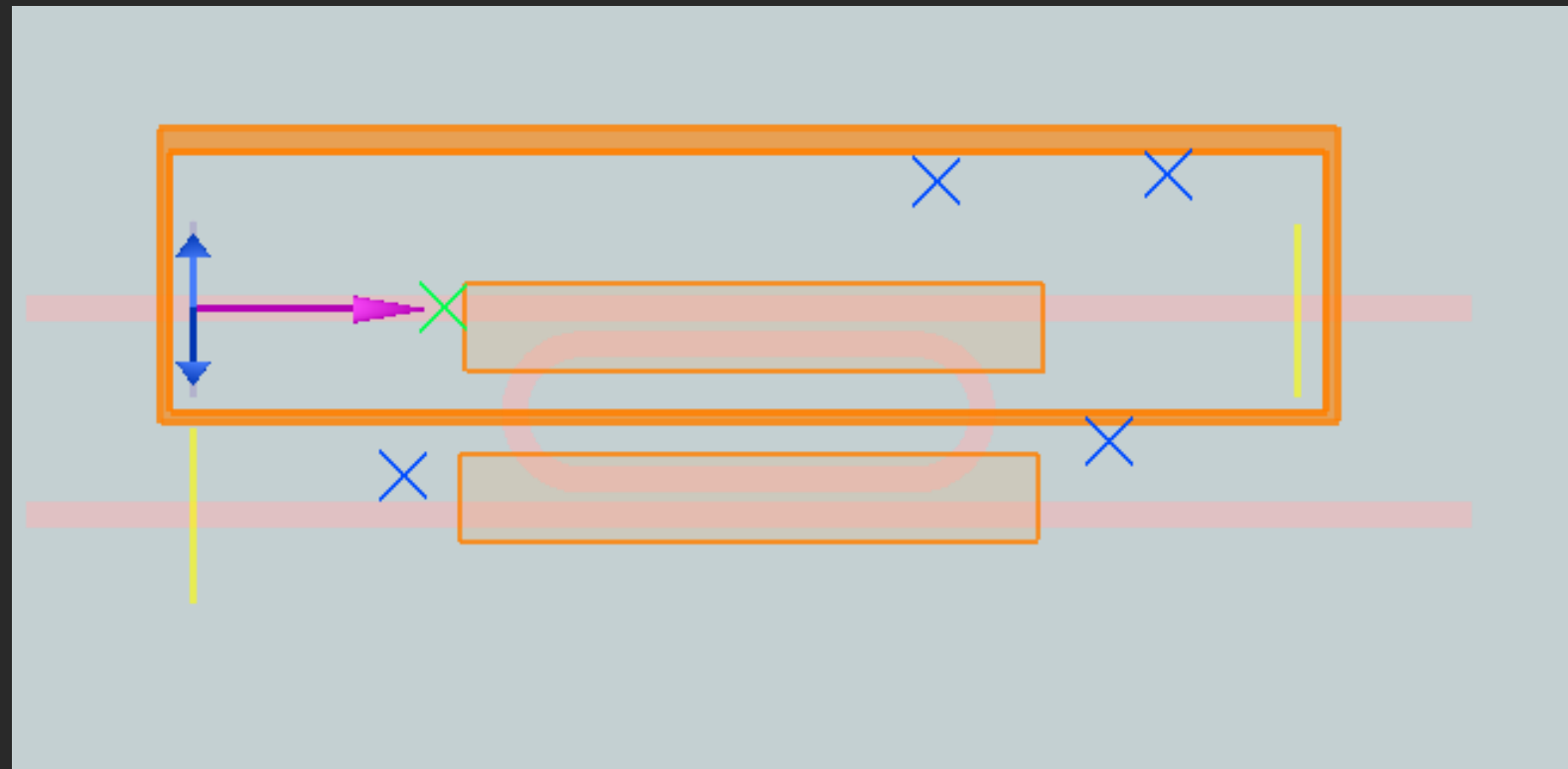
DESIGN DE UM ANEL DE RESSONÂNCIA

Resultados



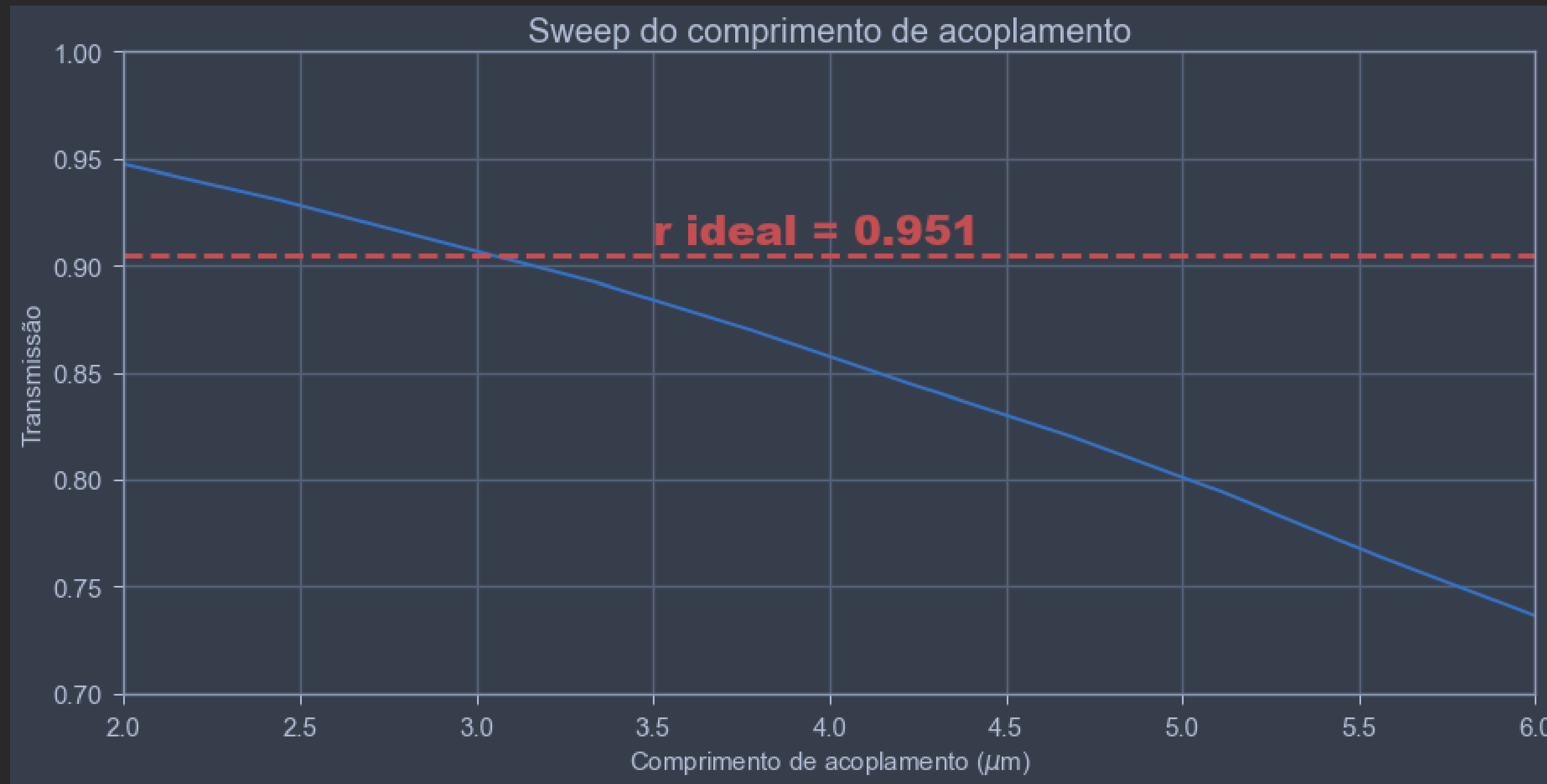
DESIGN DE UM ANEL DE RESSONÂNCIA

Sweep comprimento de acoplamento



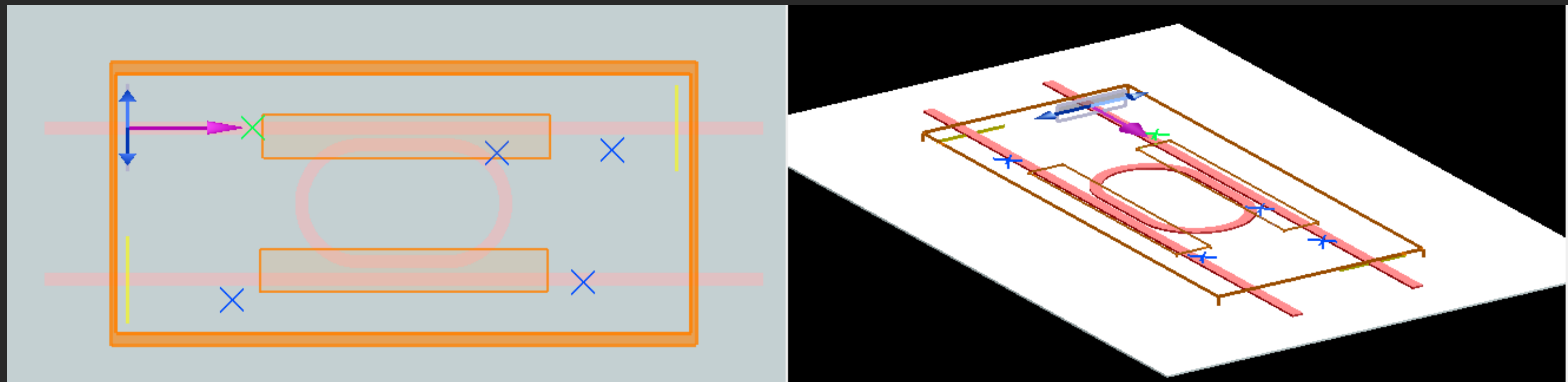
DESIGN DE UM ANEL DE RESSONÂNCIA

Sweep comprimento de acoplamento



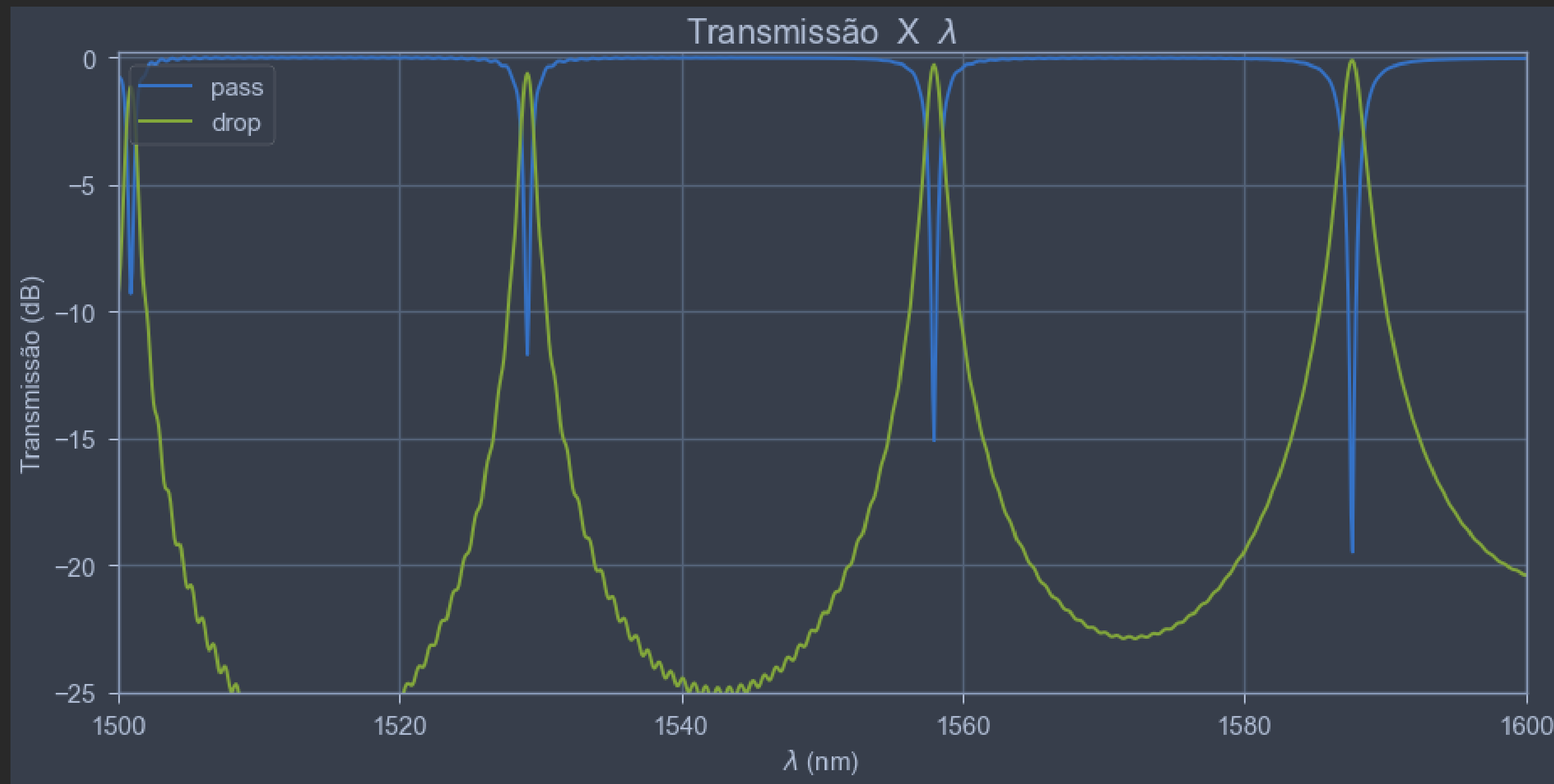
DESIGN DE UM ANEL DE RESSONÂNCIA

Usando $L_{\text{acoplamento}} = 3.0.5 \text{ } \mu\text{m}$



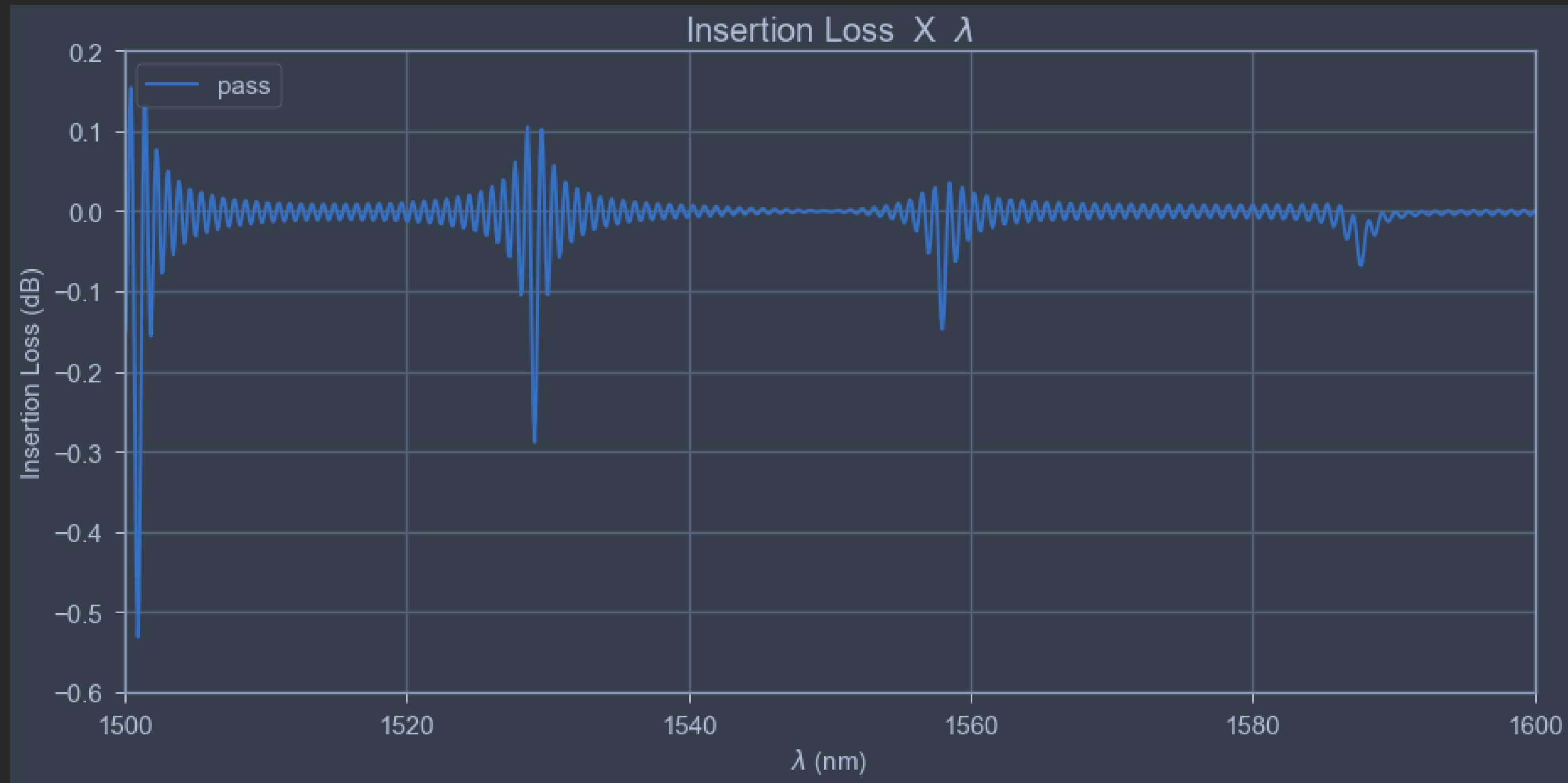
DESIGN DE UM ANEL DE RESSONÂNCIA

Resultados



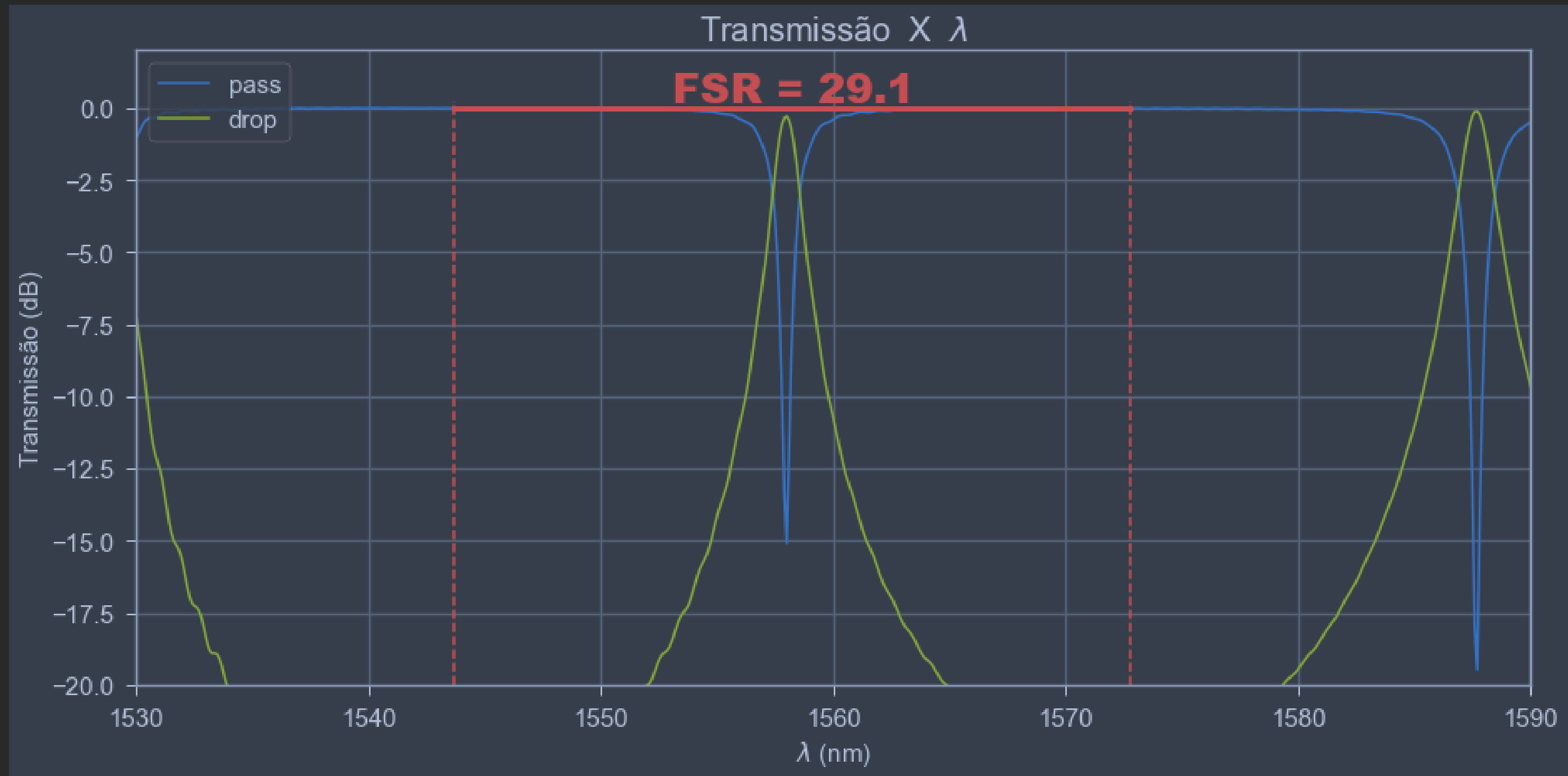
DESIGN DE UM ANEL DE RESSONÂNCIA

Resultados



DESIGN DE UM ANEL DE RESSONÂNCIA

Resultados



DESIGN DE UM ANEL DE RESSONÂNCIA

Resultados



SEMANA 3

DESIGN ANEL BANDA C

DESIGN DE UM ANEL DE RESSONÂNCIA

Especificações

Centrado na banda C

FSR = 0.8 nm

MWHW = 0.2 nm

SOI in SiO₂

Guia: 0.45/0.22 μm

gap = 150 nm

Valores Teóricos

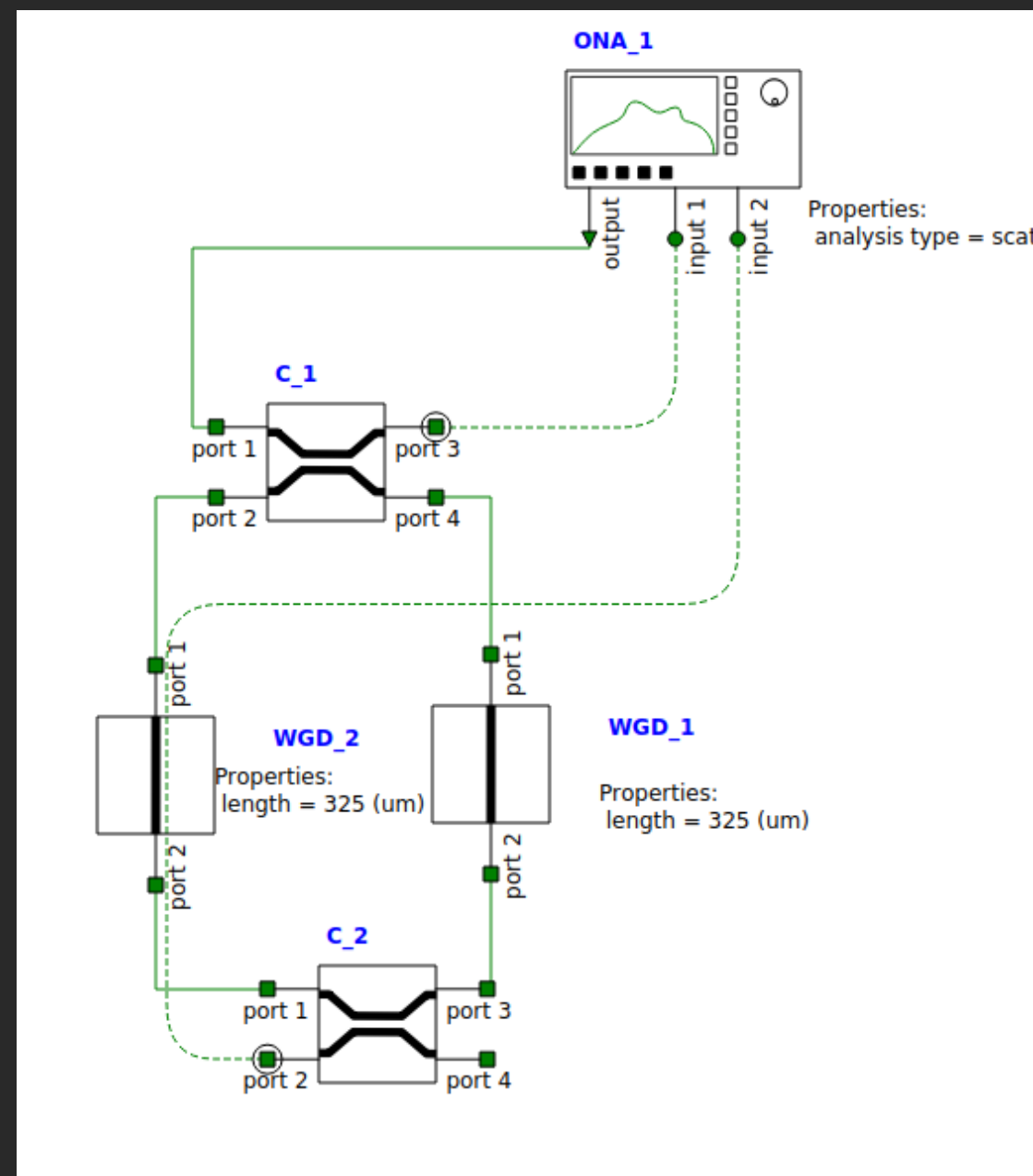
Comprimento total = 650.82 μm

Comprimento de acoplamento = 15.13 μm

Raio = 98.76 μm

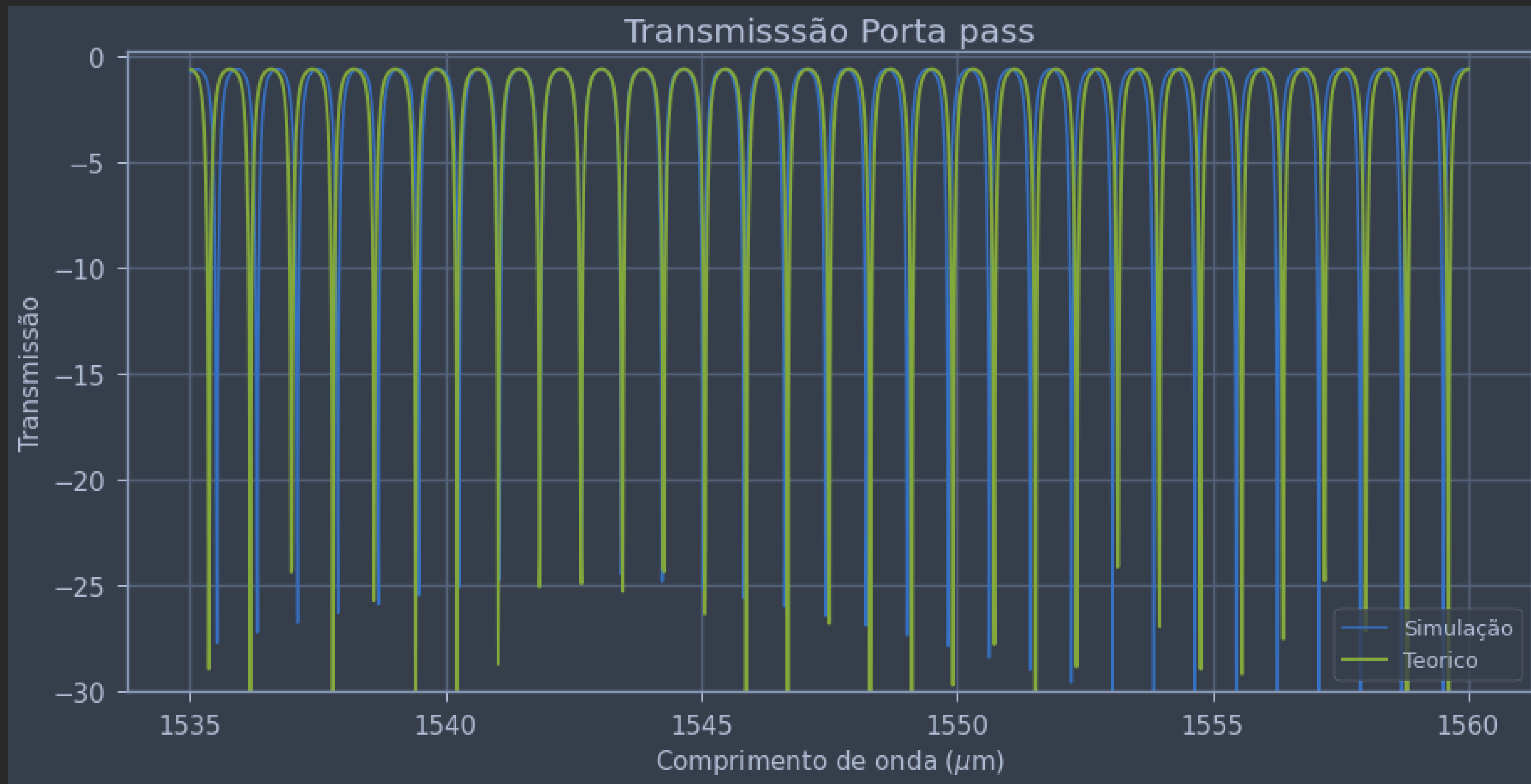
DESIGN DE UM ANEL DE RESSONÂNCIA

Simulação no Interconnect



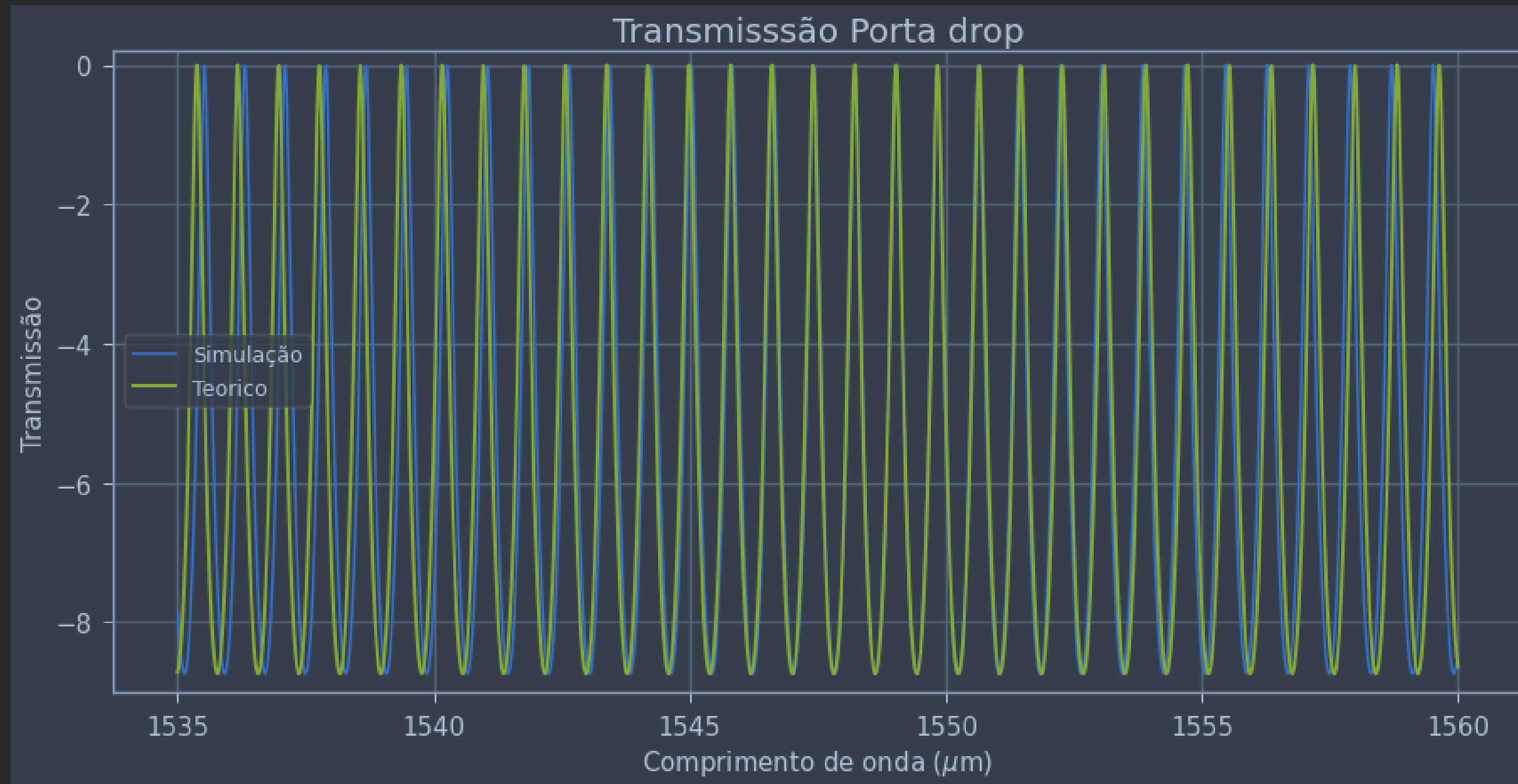
DESIGN DE UM ANEL DE RESSONÂNCIA

Resultados



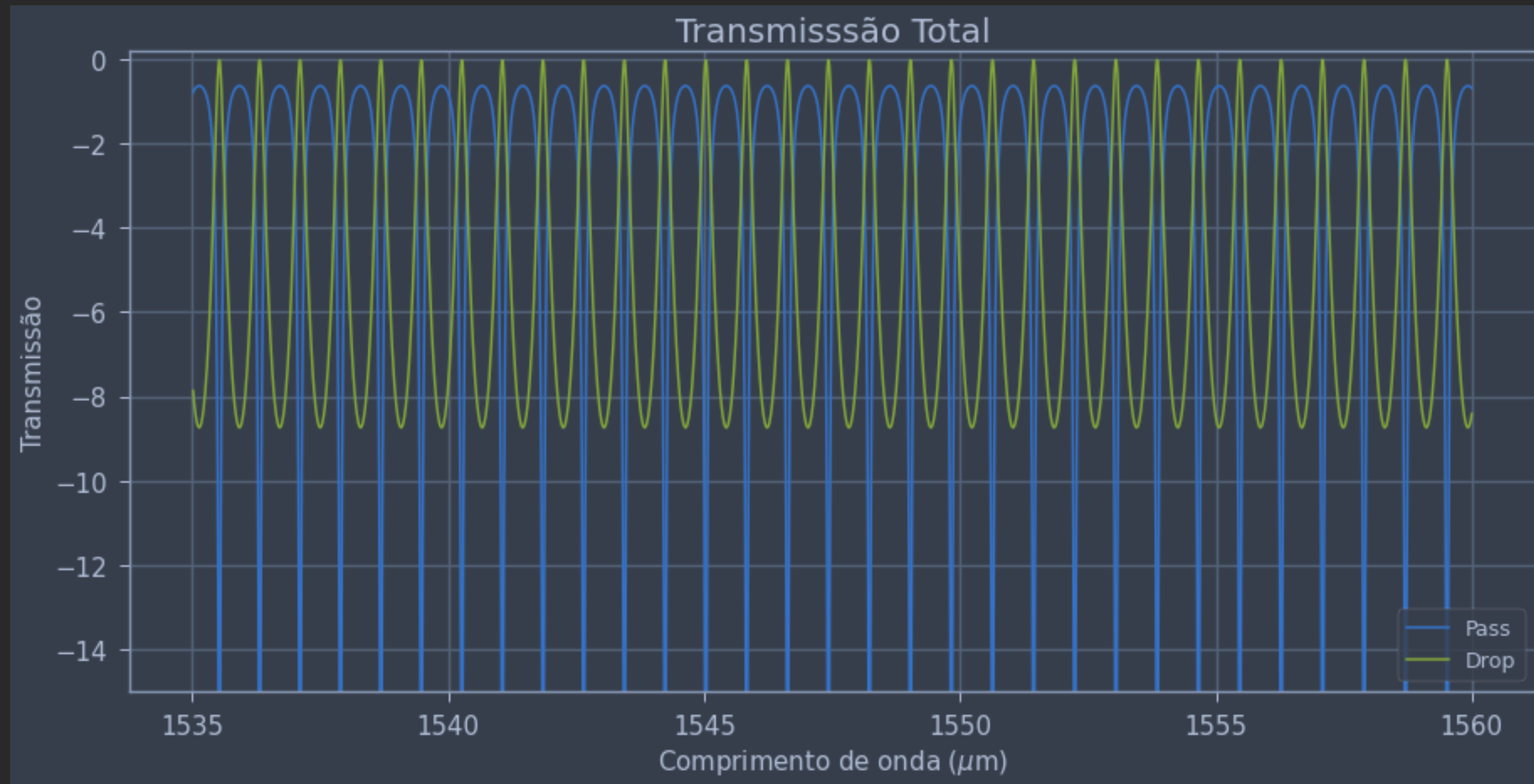
DESIGN DE UM ANEL DE RESSONÂNCIA

Resultados



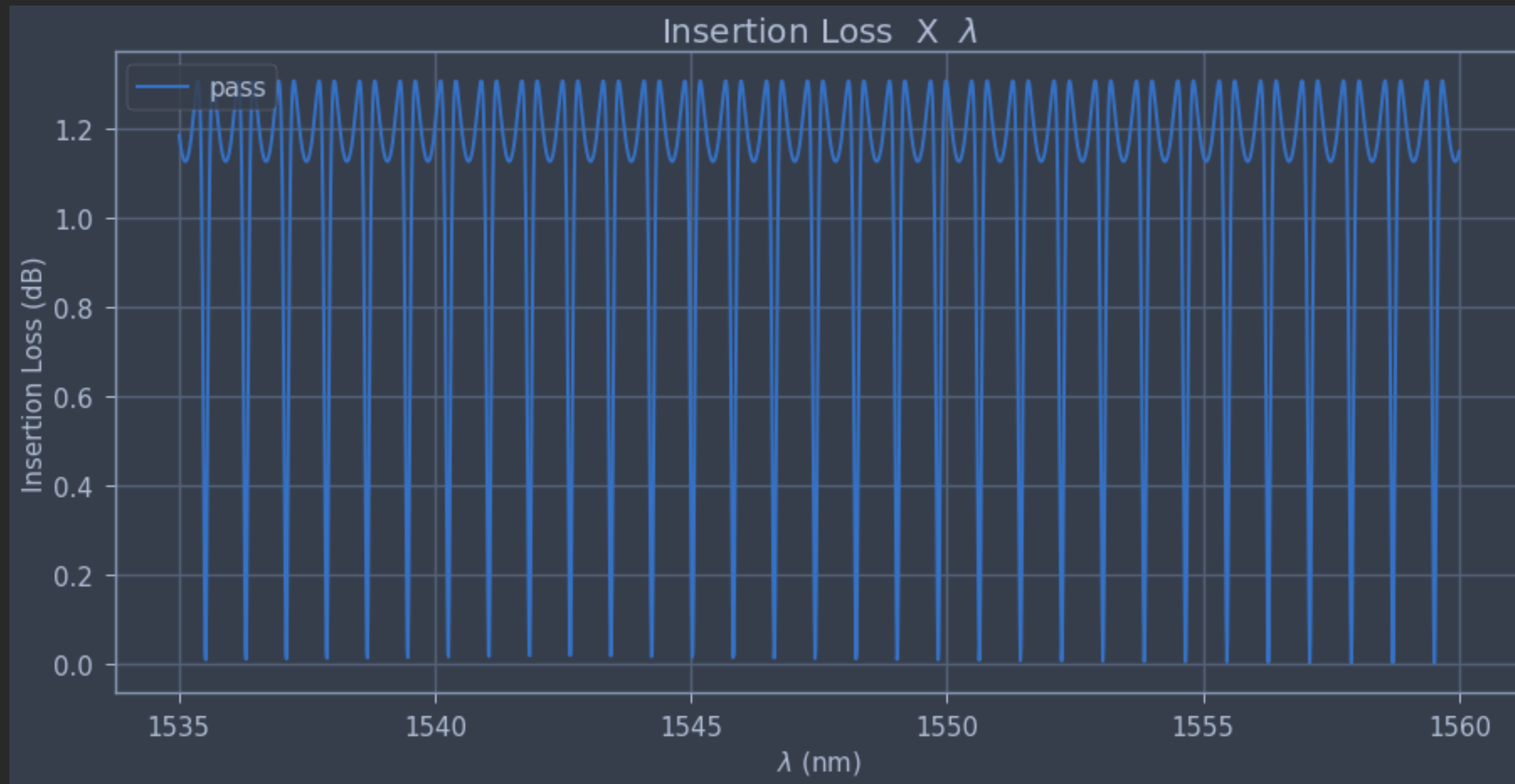
DESIGN DE UM ANEL DE RESSONÂNCIA

Resultados



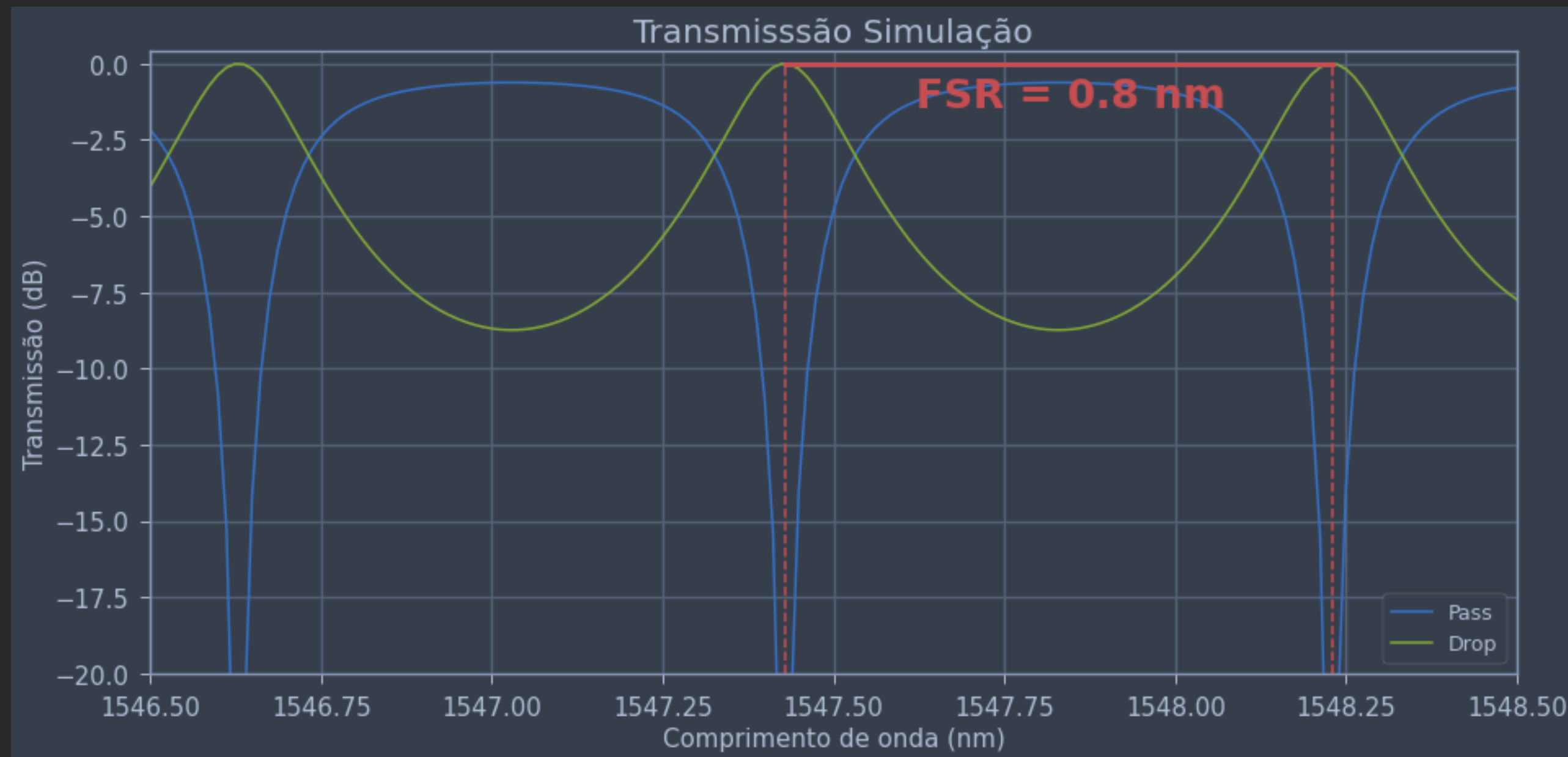
DESIGN DE UM ANEL DE RESSONÂNCIA

Resultados



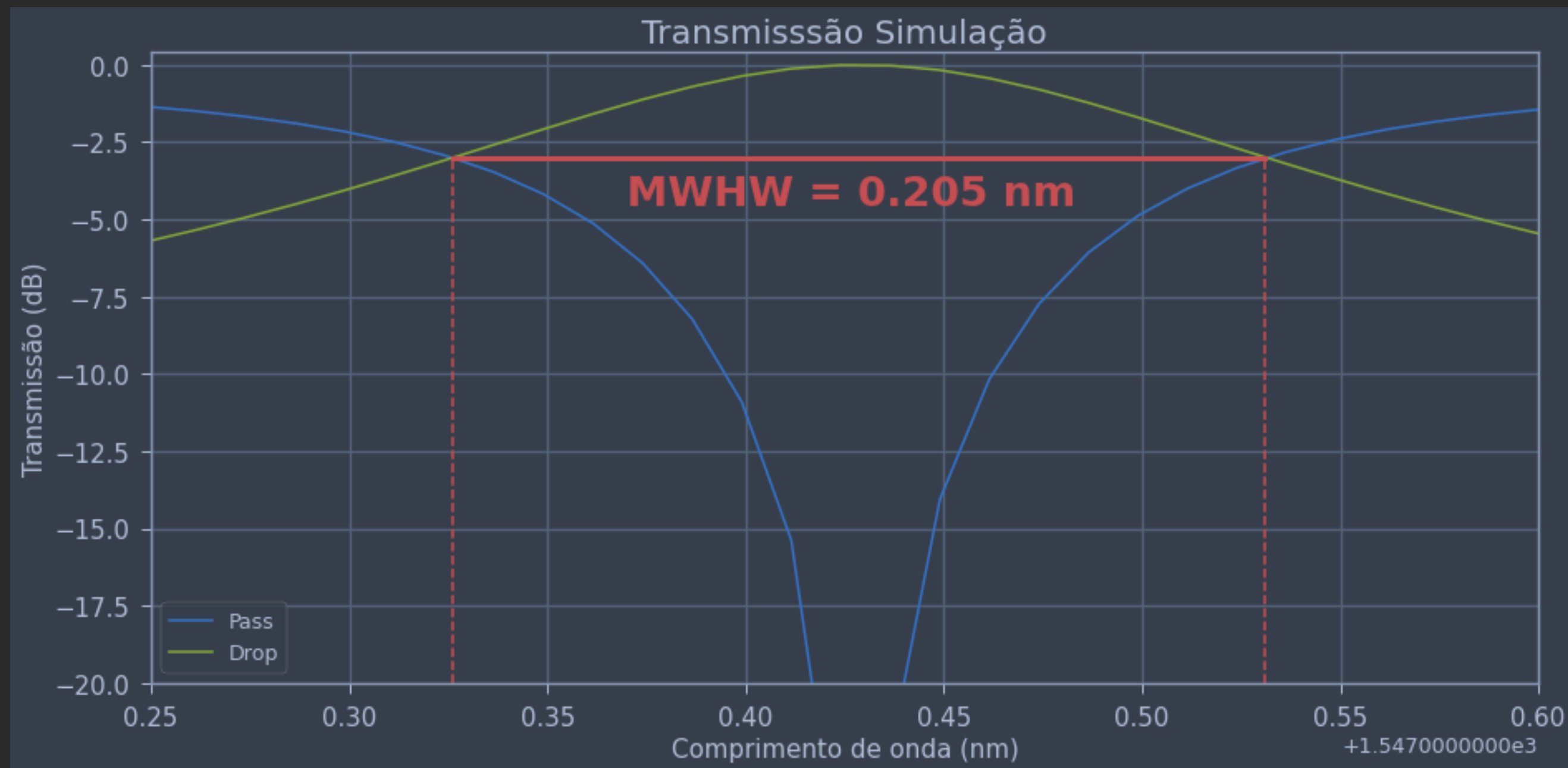
DESIGN DE UM ANEL DE RESSONÂNCIA

Resultados



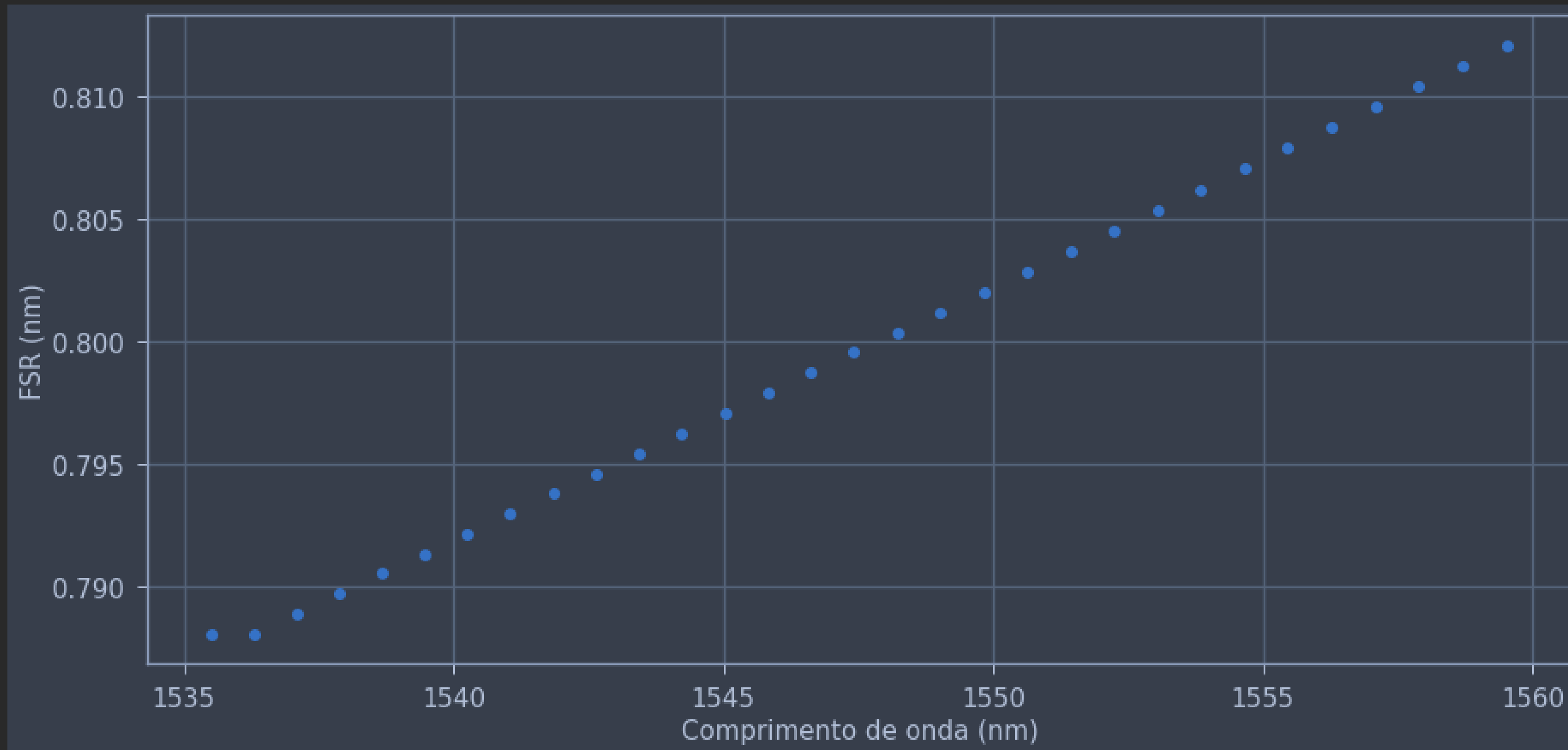
DESIGN DE UM ANEL DE RESSONÂNCIA

Resultados



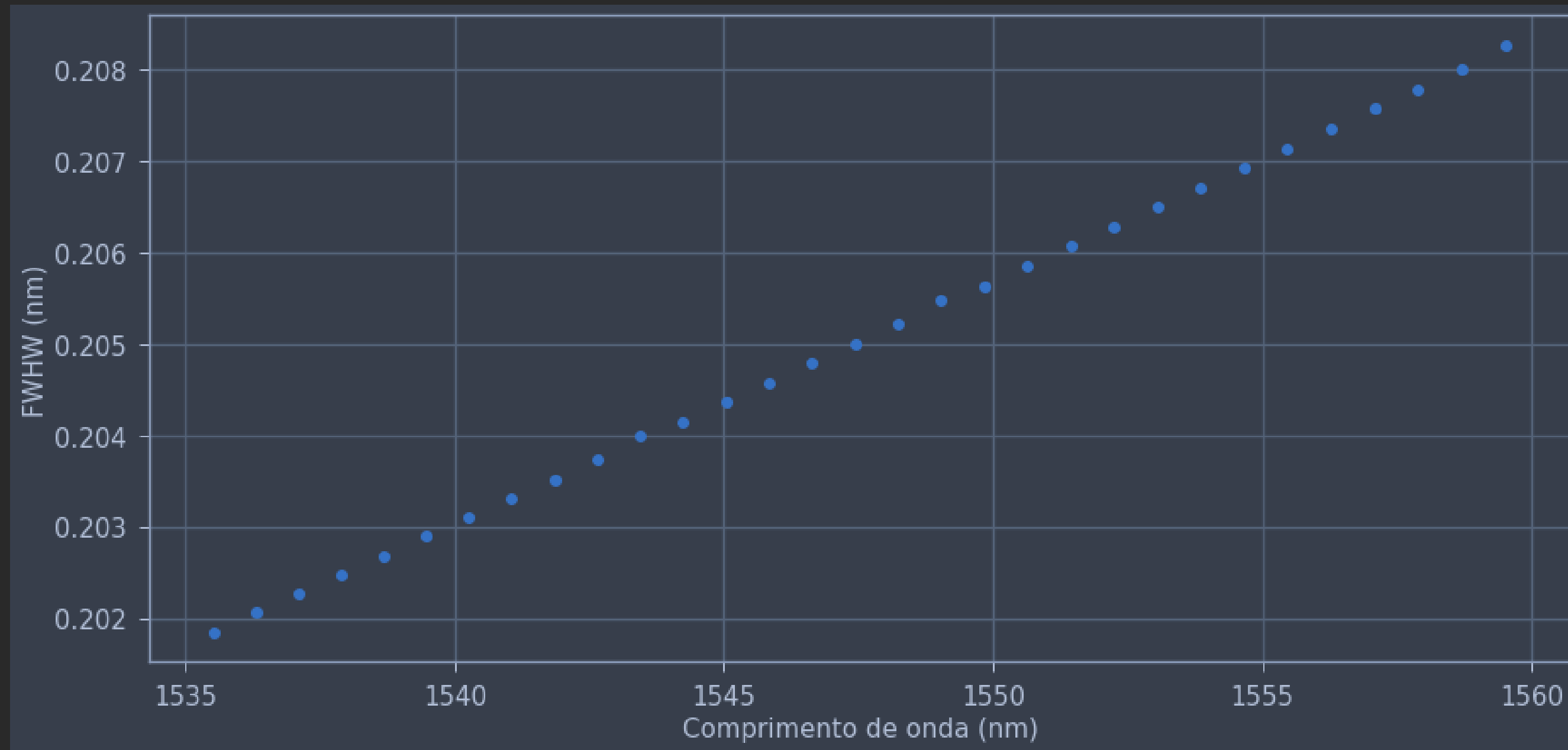
DESIGN DE UM ANEL DE RESSONÂNCIA

Resultados



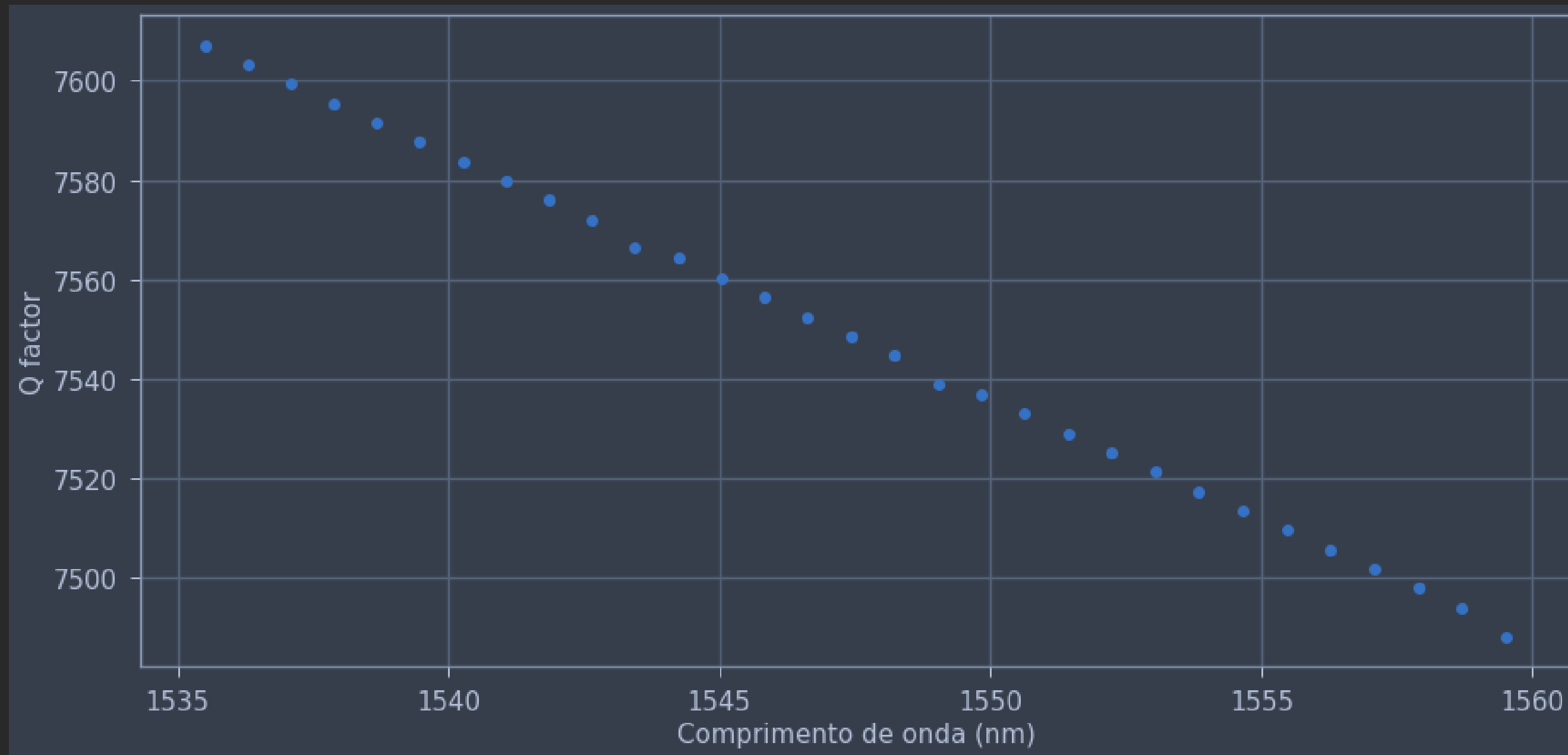
DESIGN DE UM ANEL DE RESSONÂNCIA

Resultados



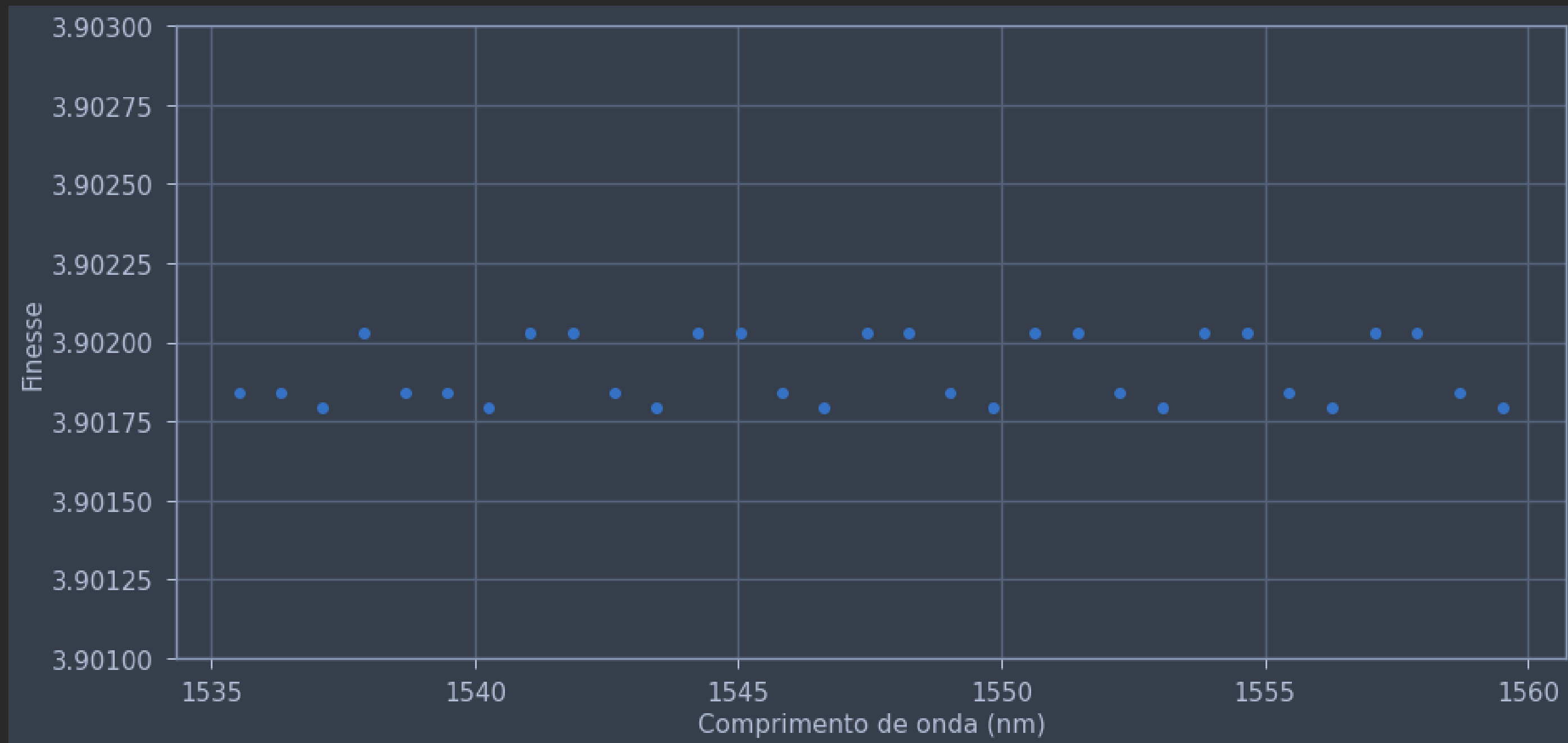
DESIGN DE UM ANEL DE RESSONÂNCIA

Resultados



DESIGN DE UM ANEL DE RESSONÂNCIA

Resultados



DESIGN DE UM ANEL DE RESSONÂNCIA

Analise do acoplamento

Solver usado: EME



DESIGN DE UM ANEL DE RESSONÂNCIA

Resultados

