Quartz, Sapphire: Index studies

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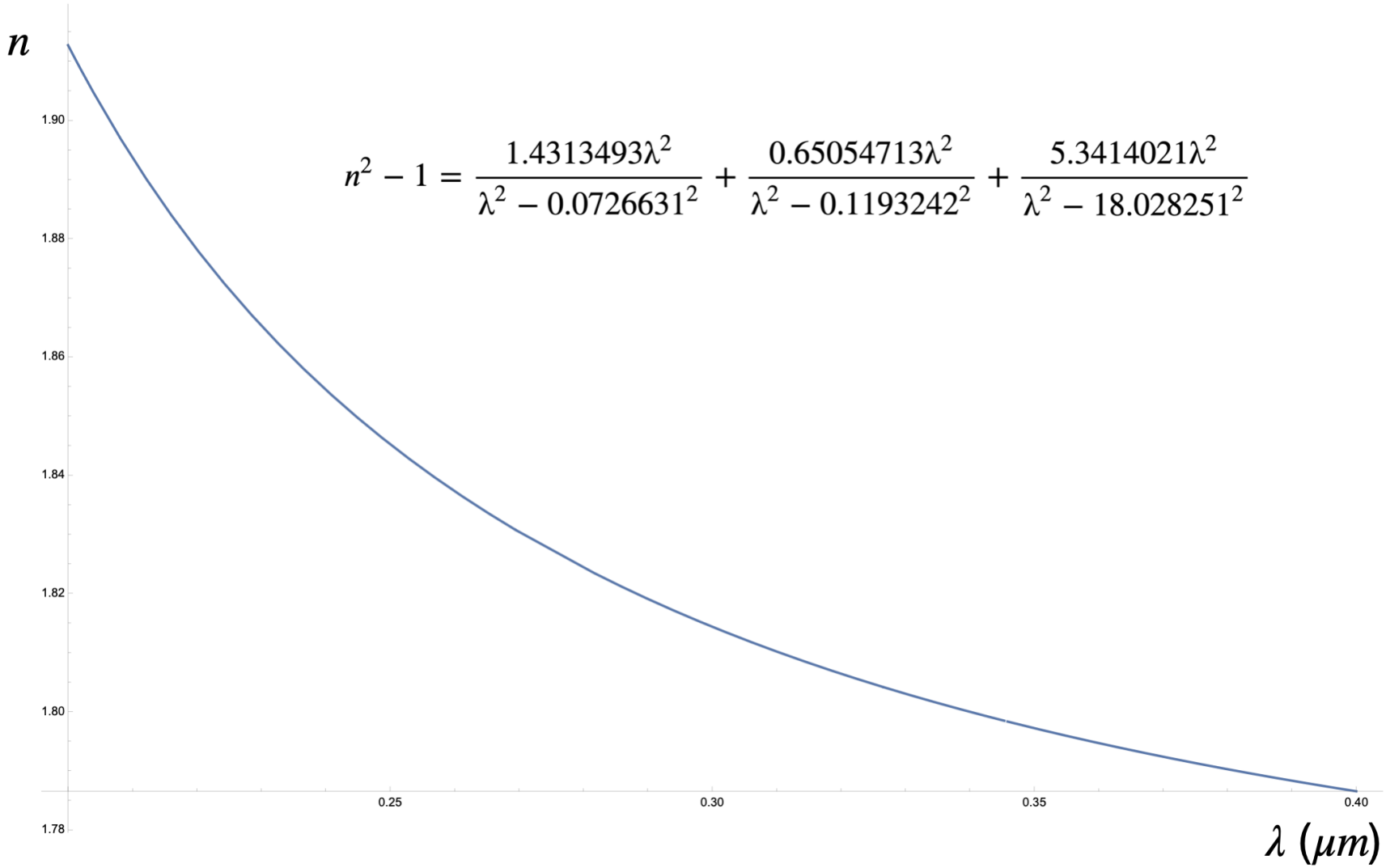
pfRICH meeting

Dispersion formula

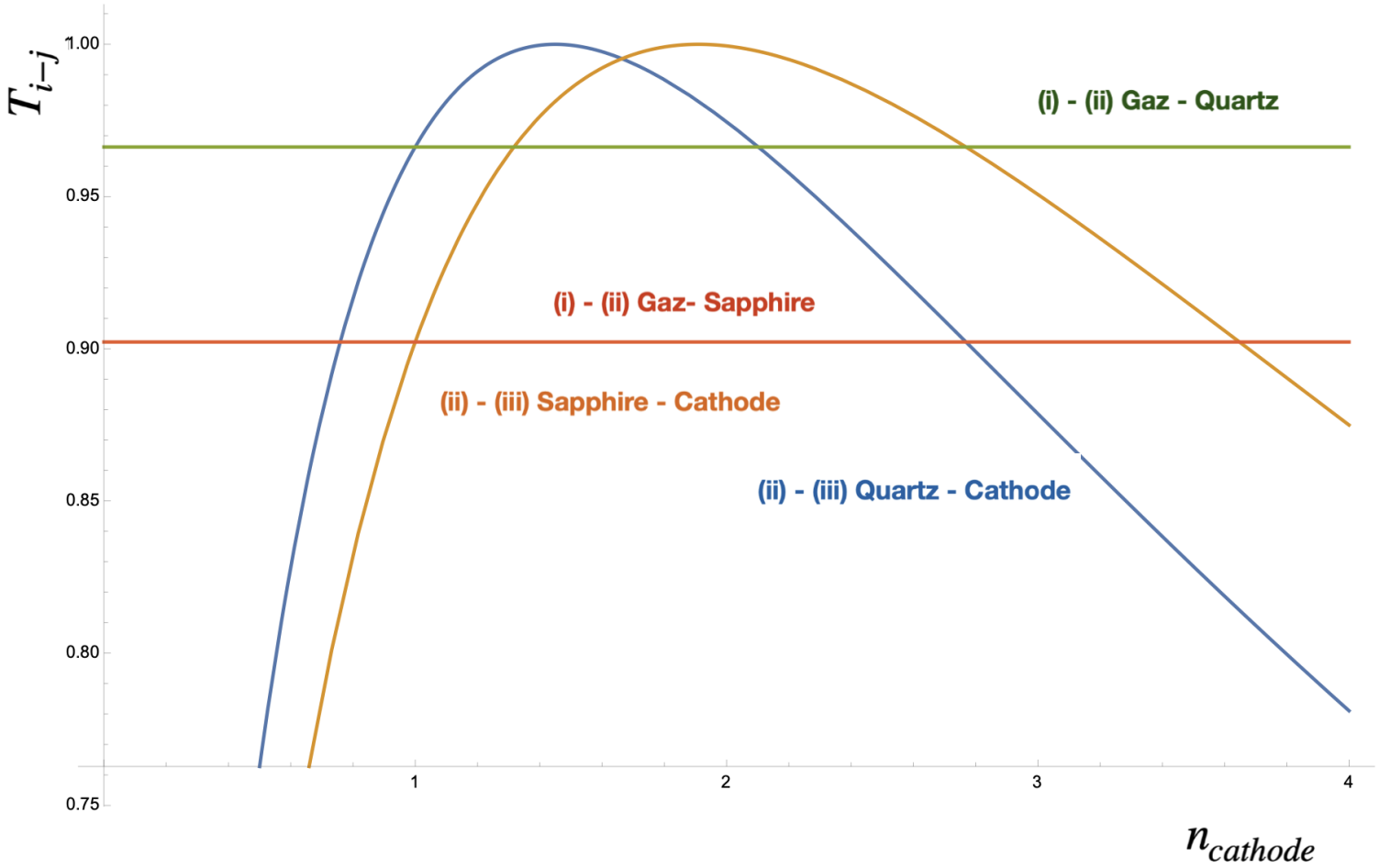
Optical constants of CRYSTALS



$$n^2 - 1 = \frac{1.4313493\lambda^2}{\lambda^2 - 0.0726631^2} + \frac{0.65054713\lambda^2}{\lambda^2 - 0.1193242^2} + \frac{5.3414021\lambda^2}{\lambda^2 - 18.028251^2}$$

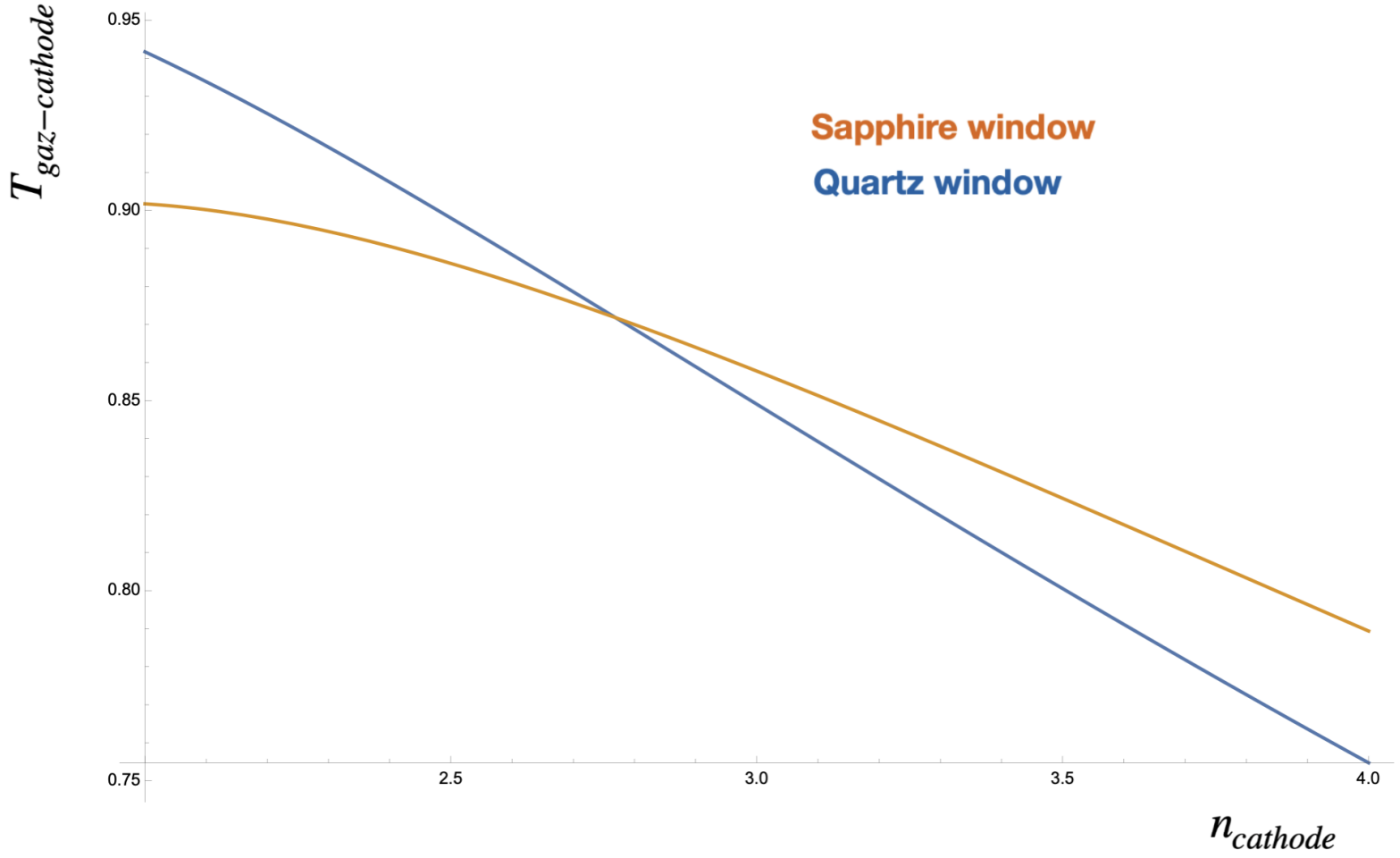
Transmission rate: quartz vs sapphire I

Transmission rates



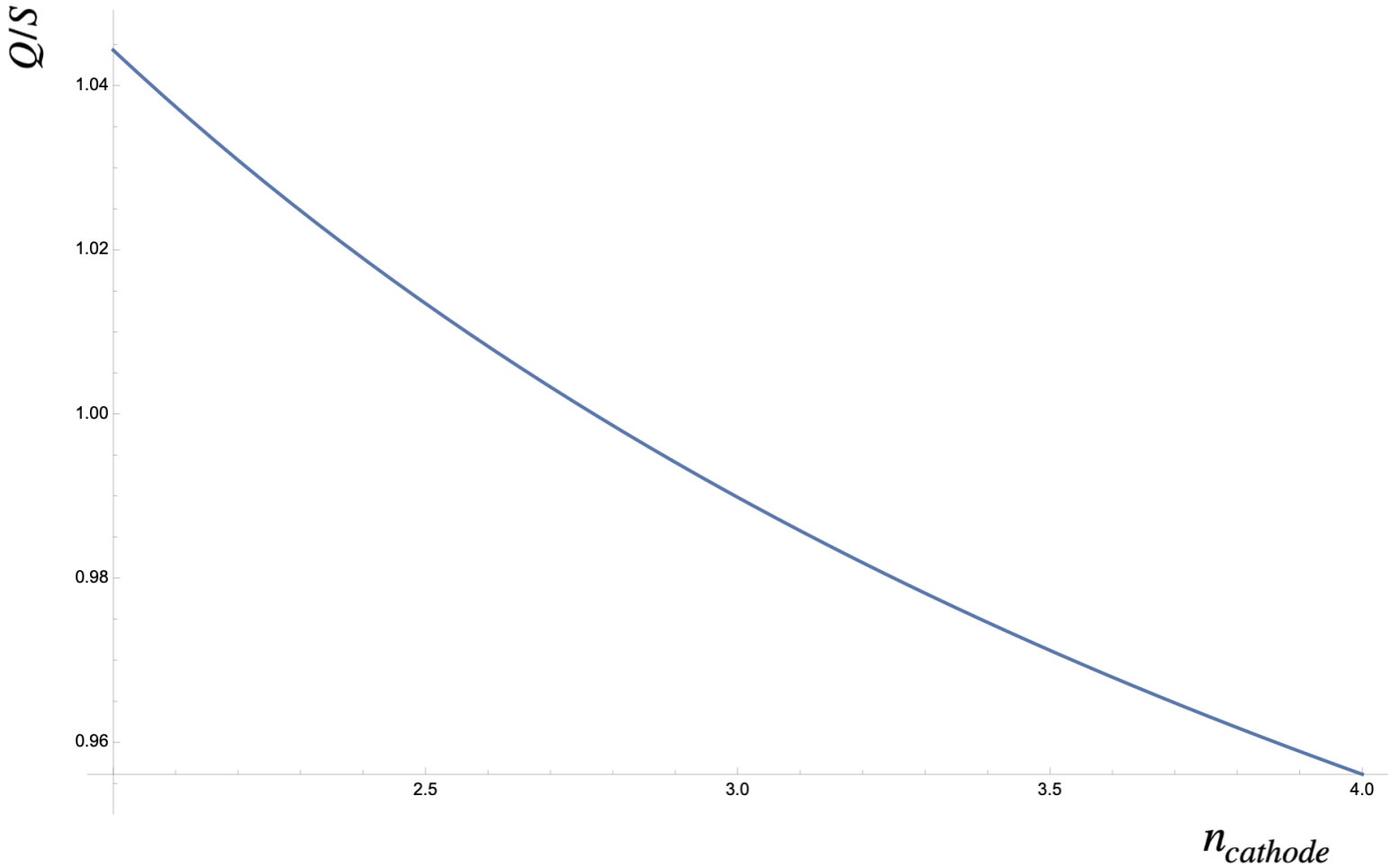
Transmission rate: quartz vs sapphire II

Transmission rates between gaz to cathode



Transmission rate: quartz vs sapphire III

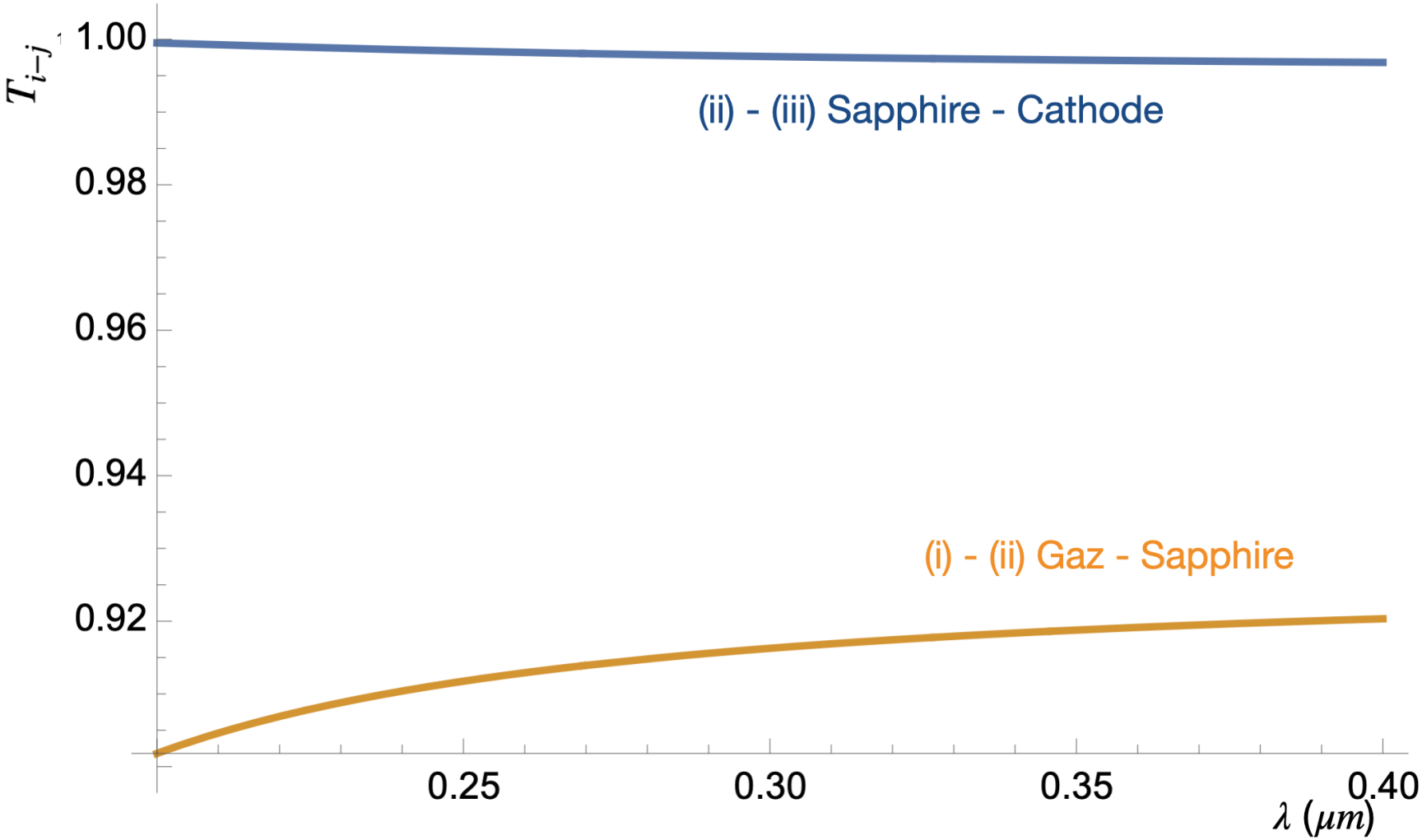
Ratio of transmission rates between gaz to cathode



- $\pm 5\%$ maximum of difference between Quartz and Sapphire window.

Transmission rate vs λ I

n of the cathode = 2



Transmission rate vs λ II

n of the cathode = 4