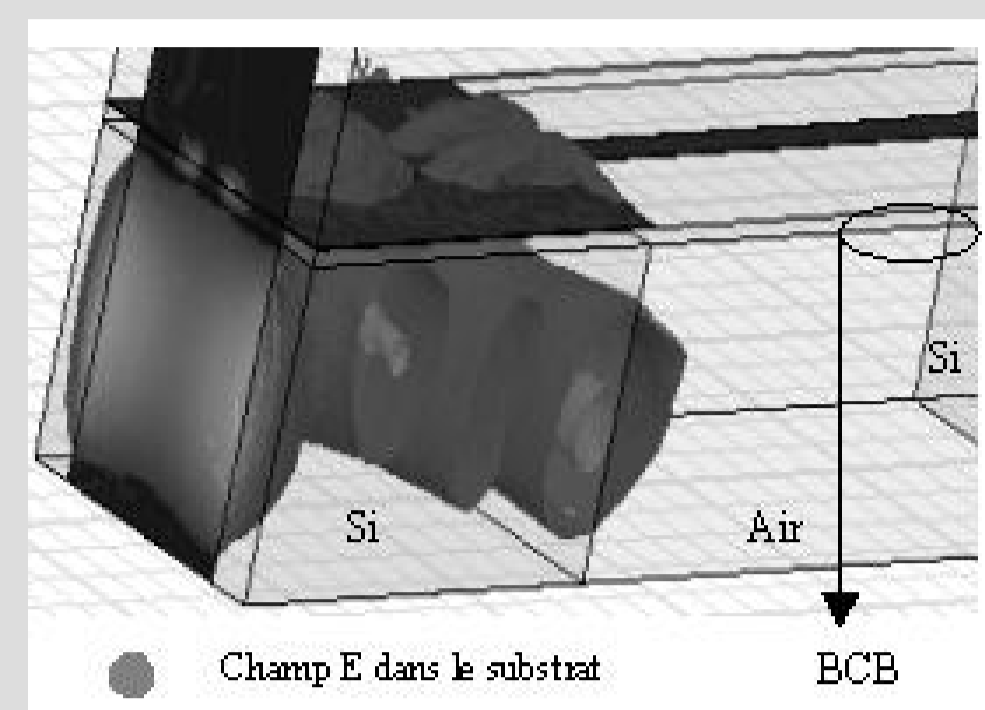
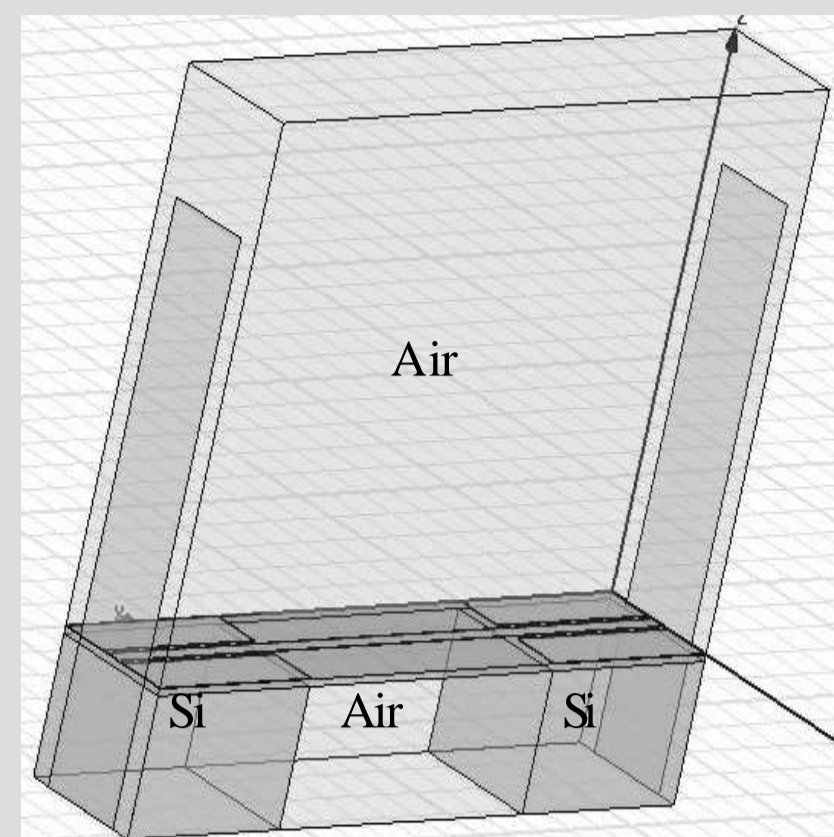
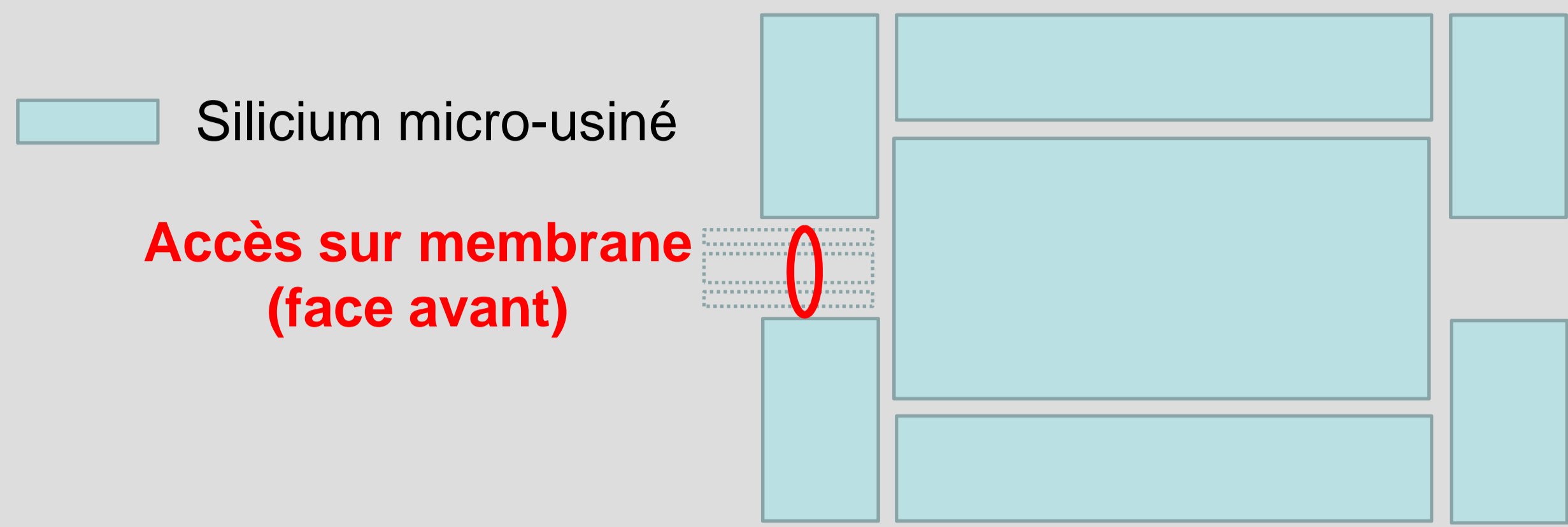


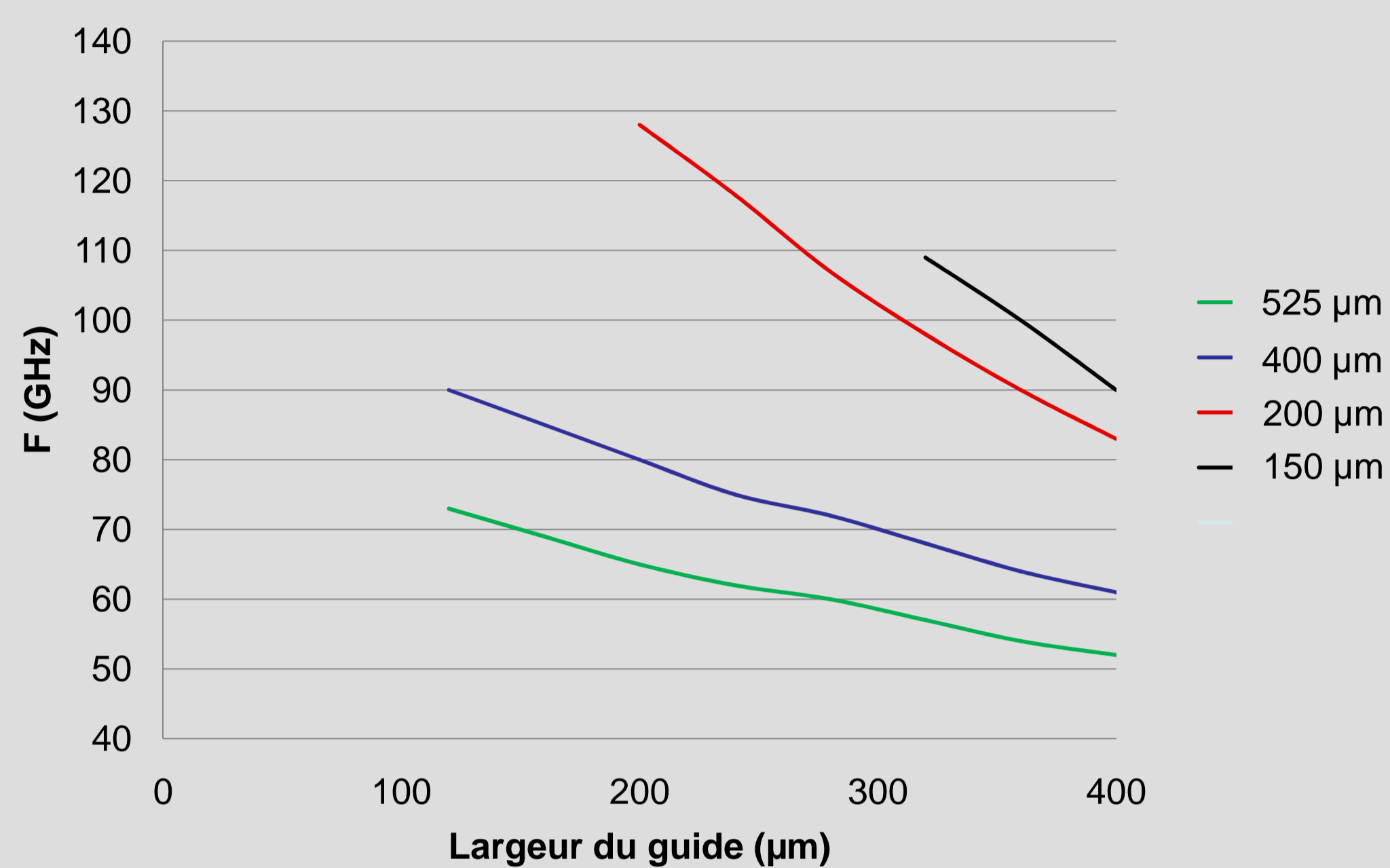
M. Chatras, R. Hajj et P. Blondy

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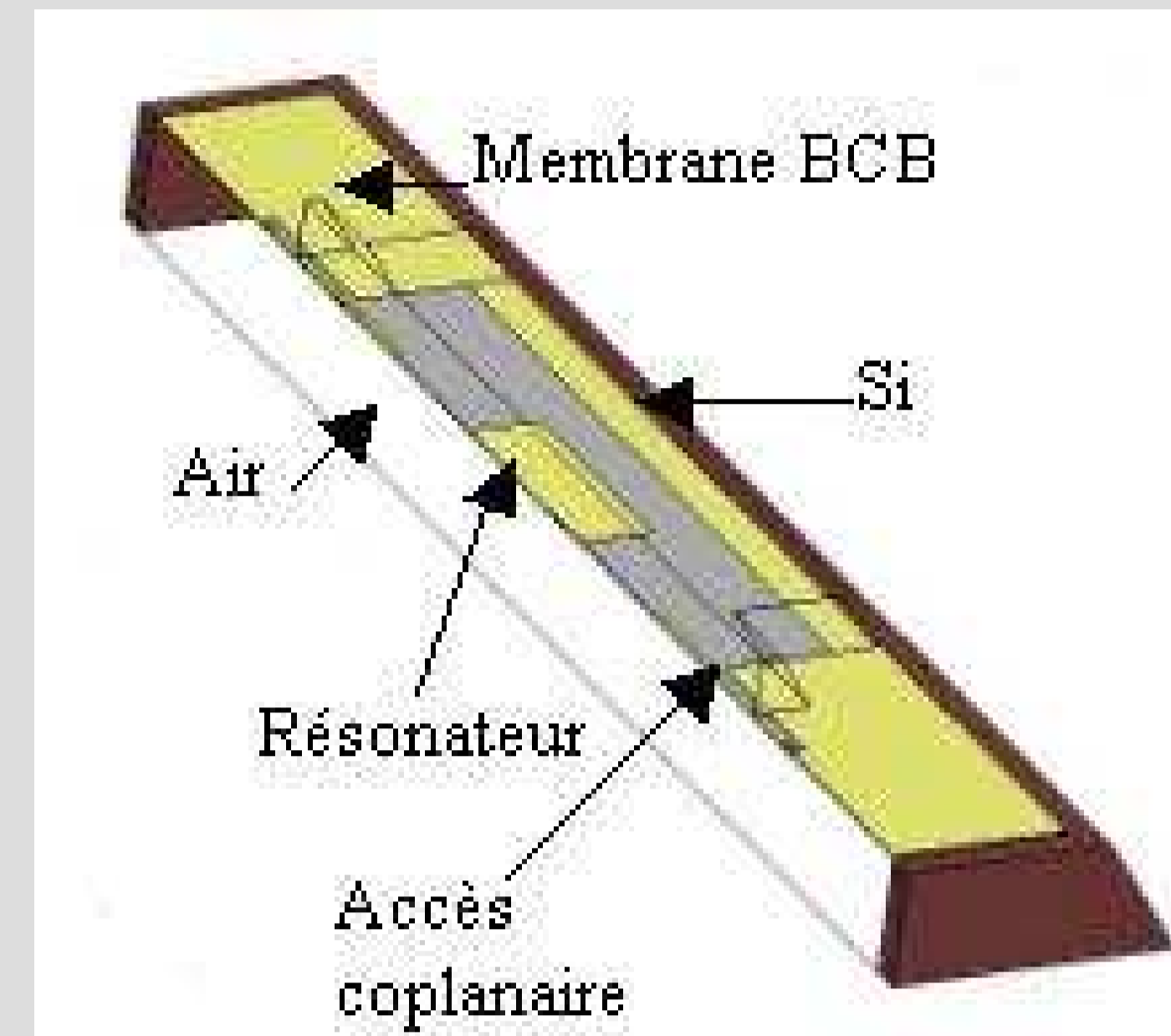
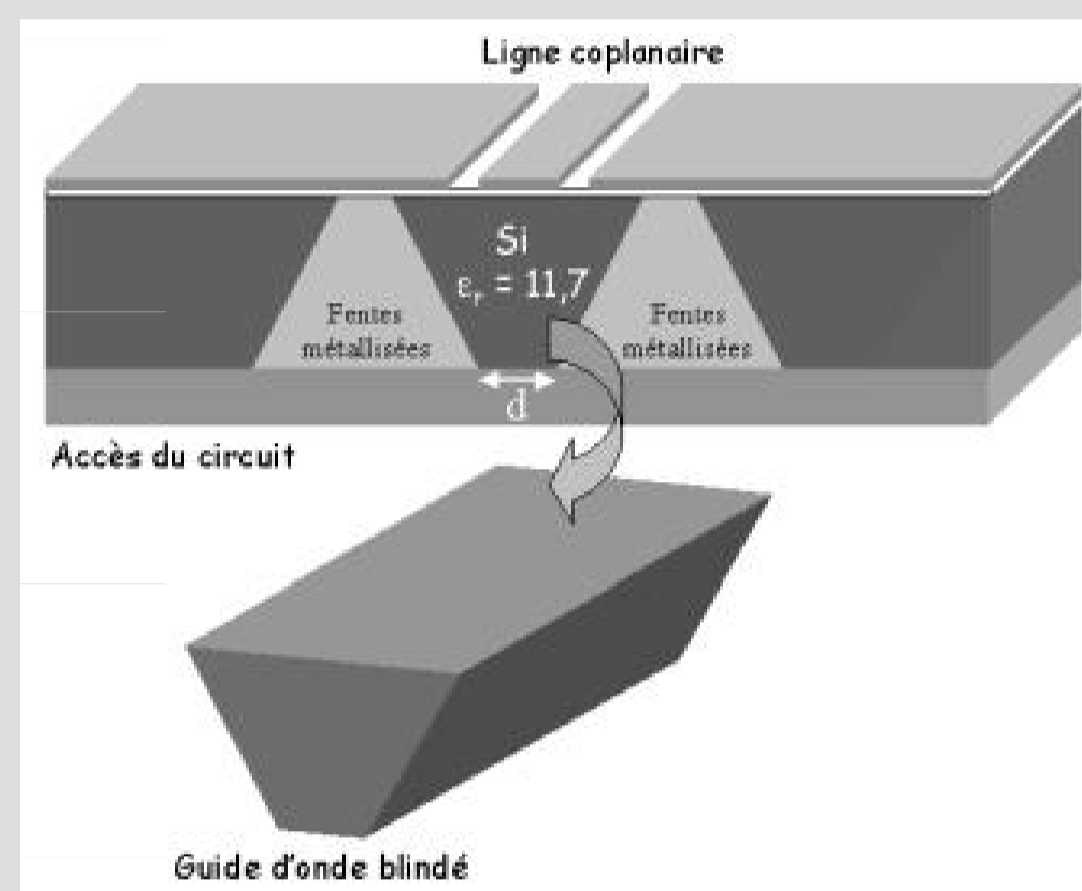
1. Modification des structures micro-usinées classiques pour le domaine submillimétrique



SOLUTION:
Elimination du Si
Accès CPW sur la membrane.

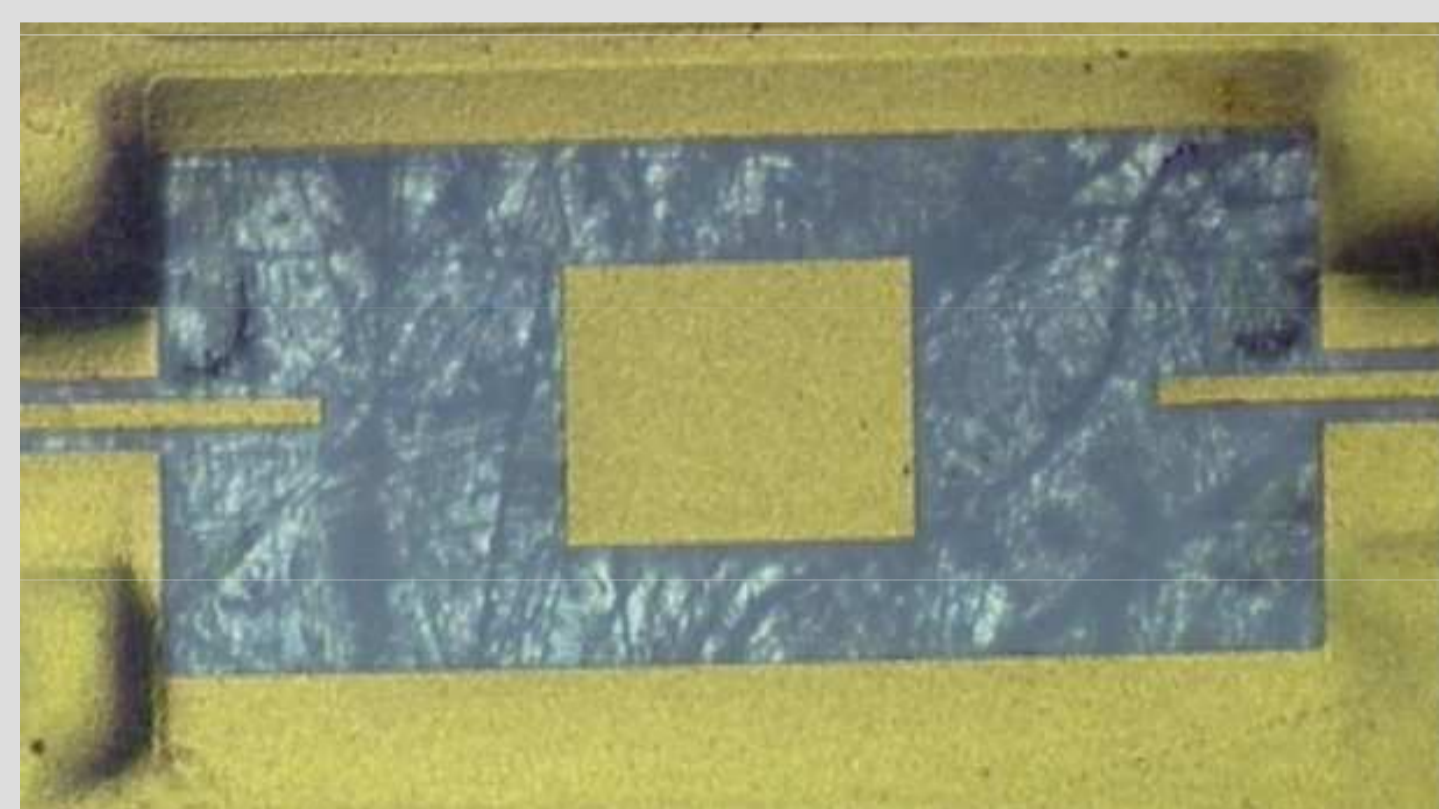


Excitation du guide de silicium.
Fuite d'énergie sous les accès.



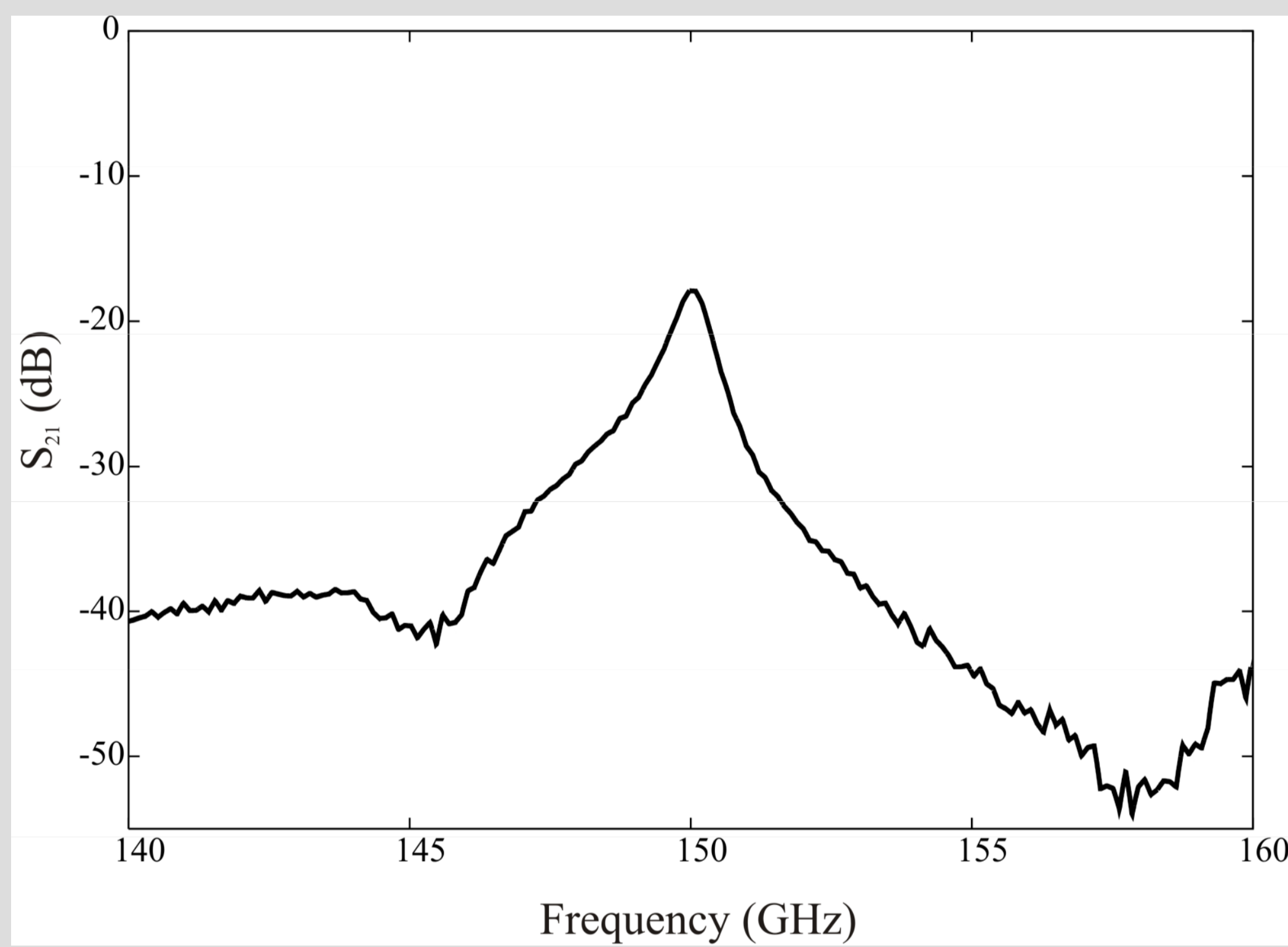
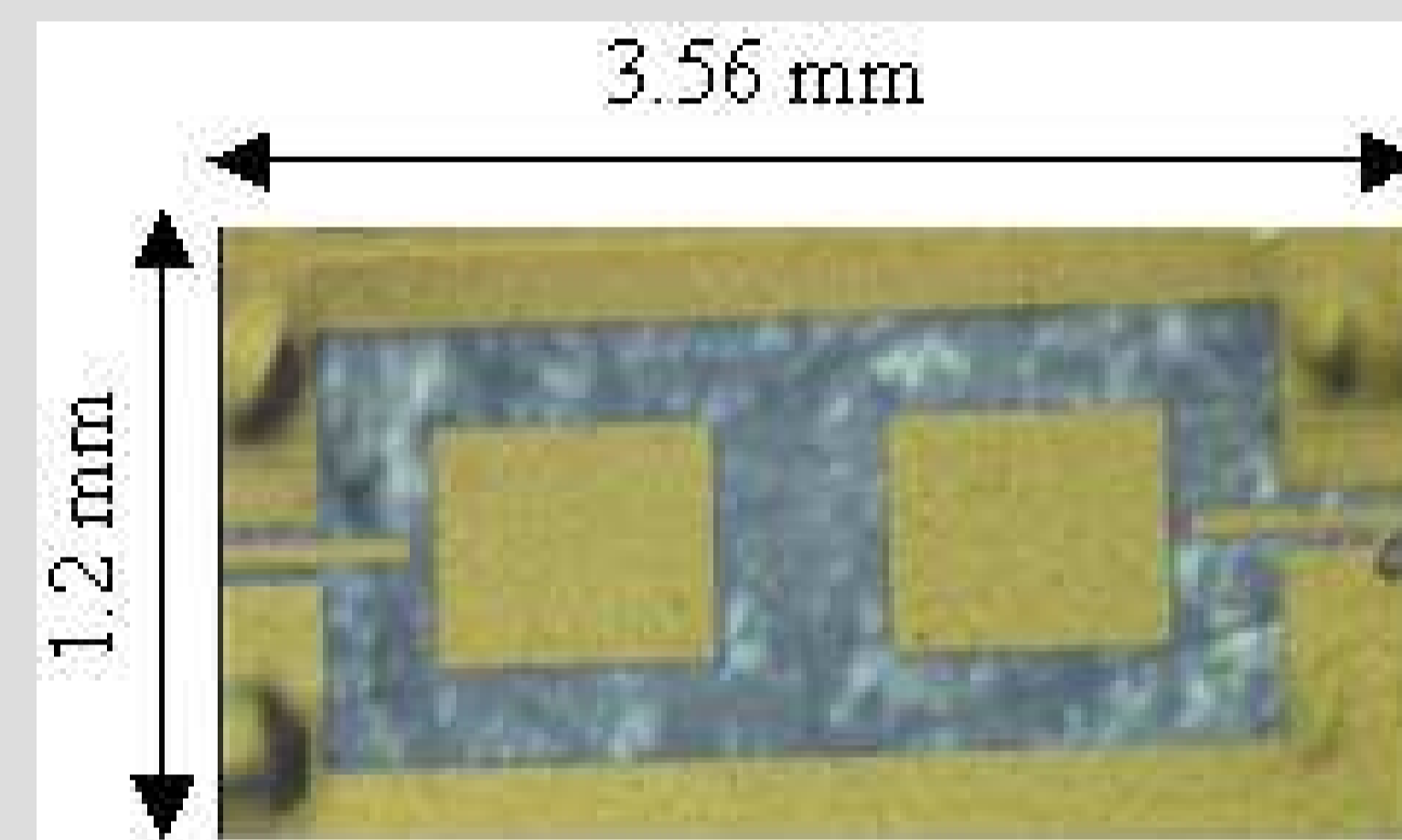
Impossible de concevoir les accès pour exciter le filtre

2. Résonateur et filtre micro-usiné



Résonateur découplé
Mesure du Q_0
Accès CPW pour mesure

Filtre 2 pôles
Résonateurs $\lambda/2$
Synthèse Tchebychev



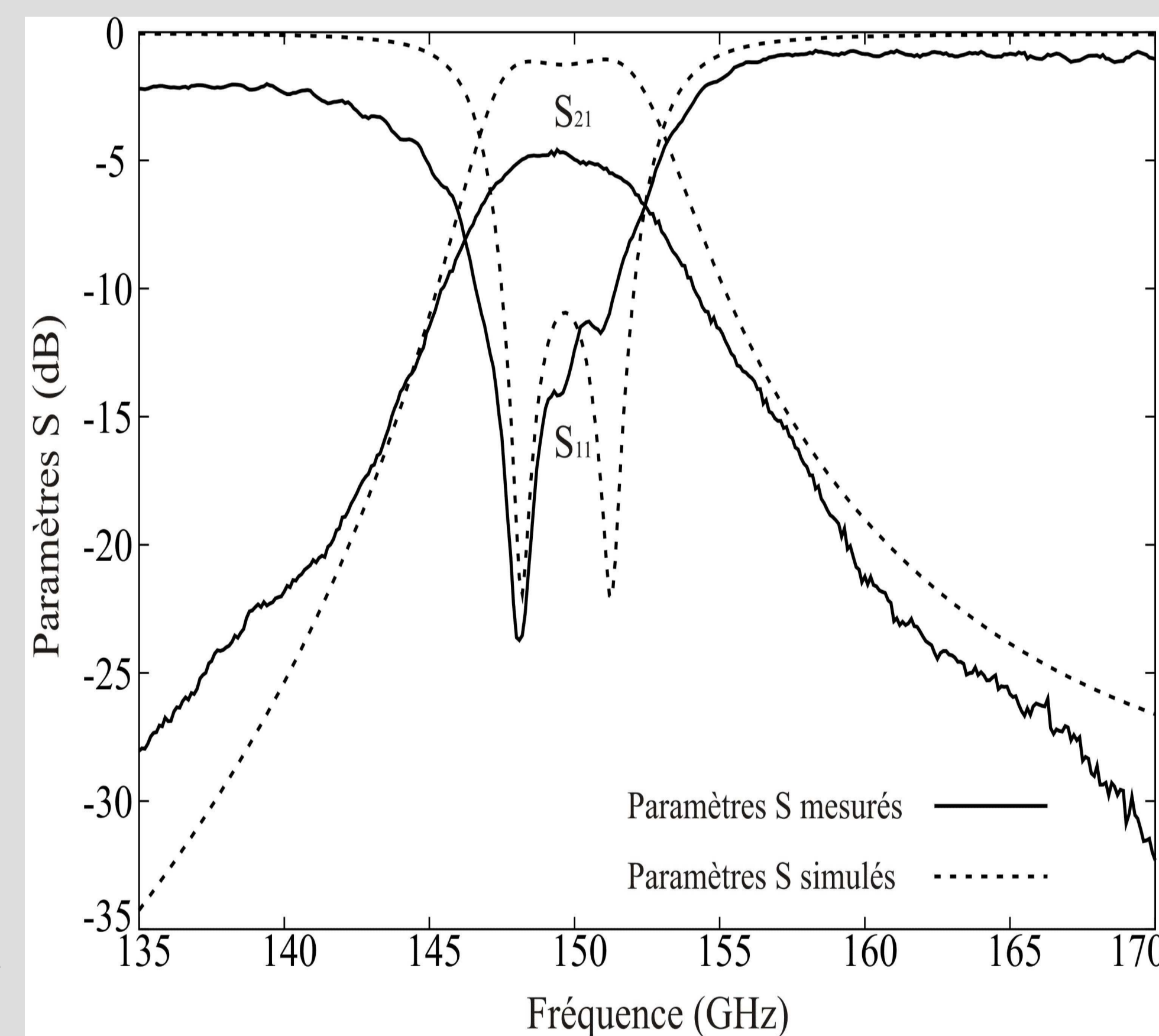
$Q_0 = 230$

$f_0 = 150$ GHz

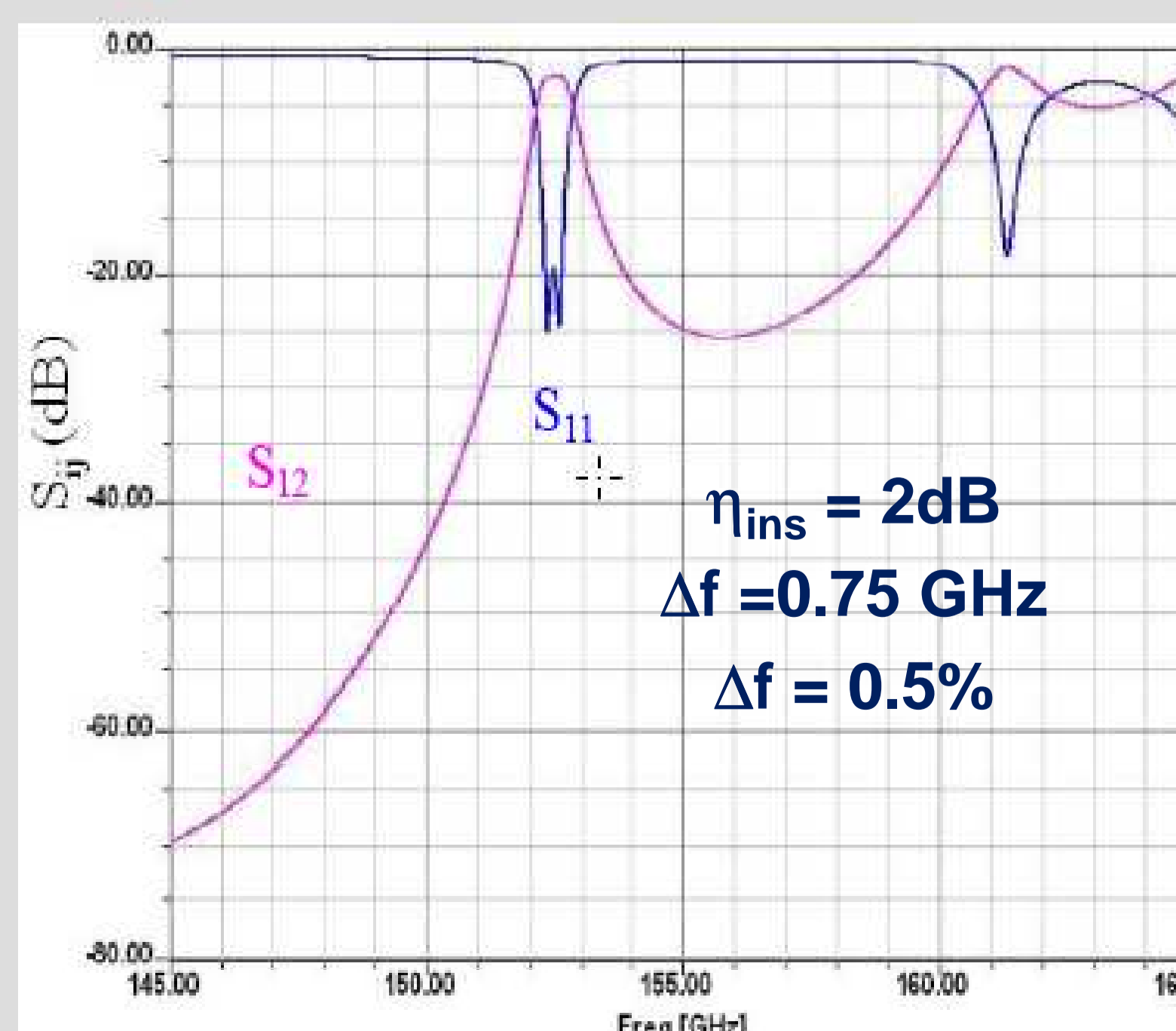
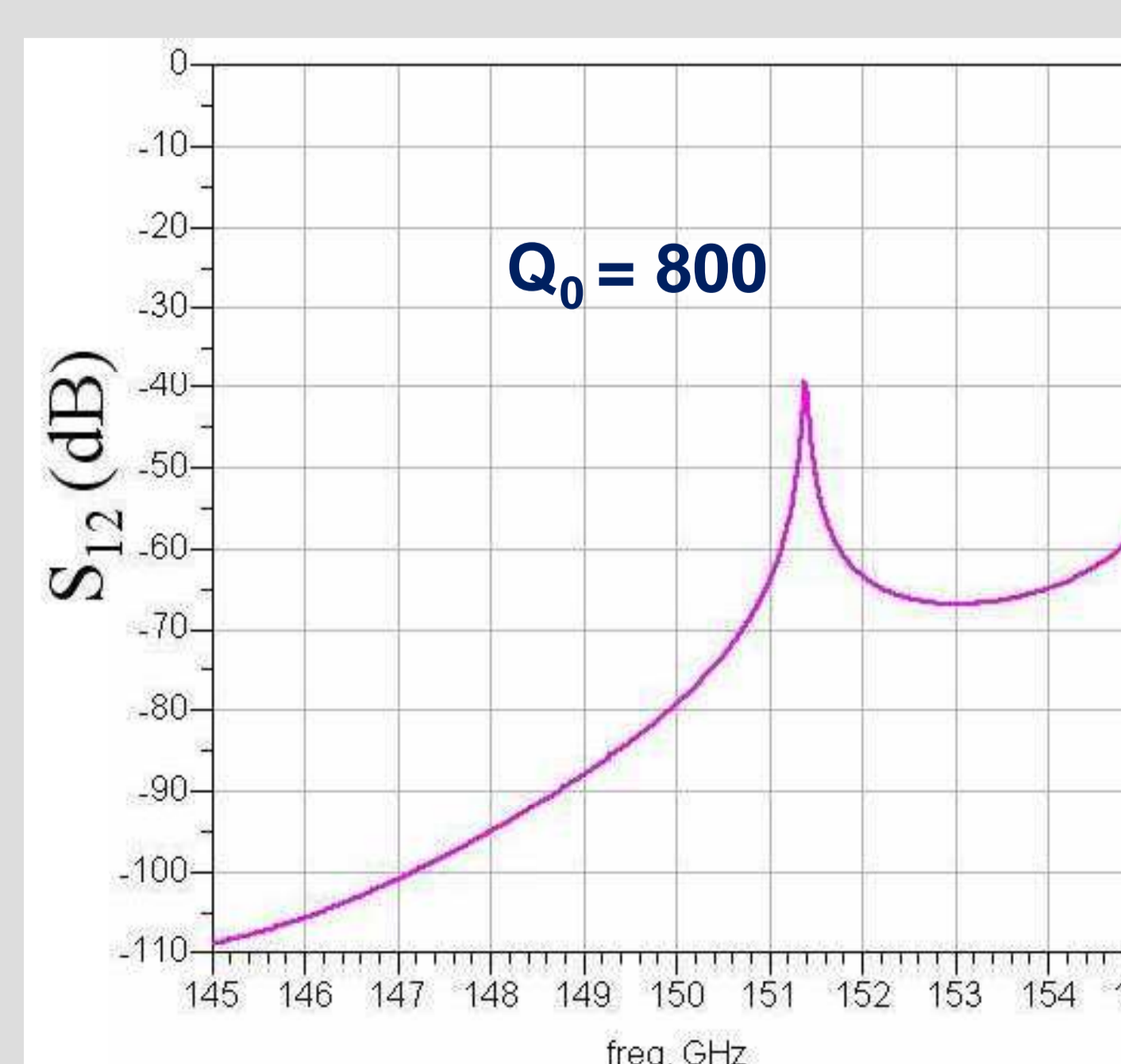
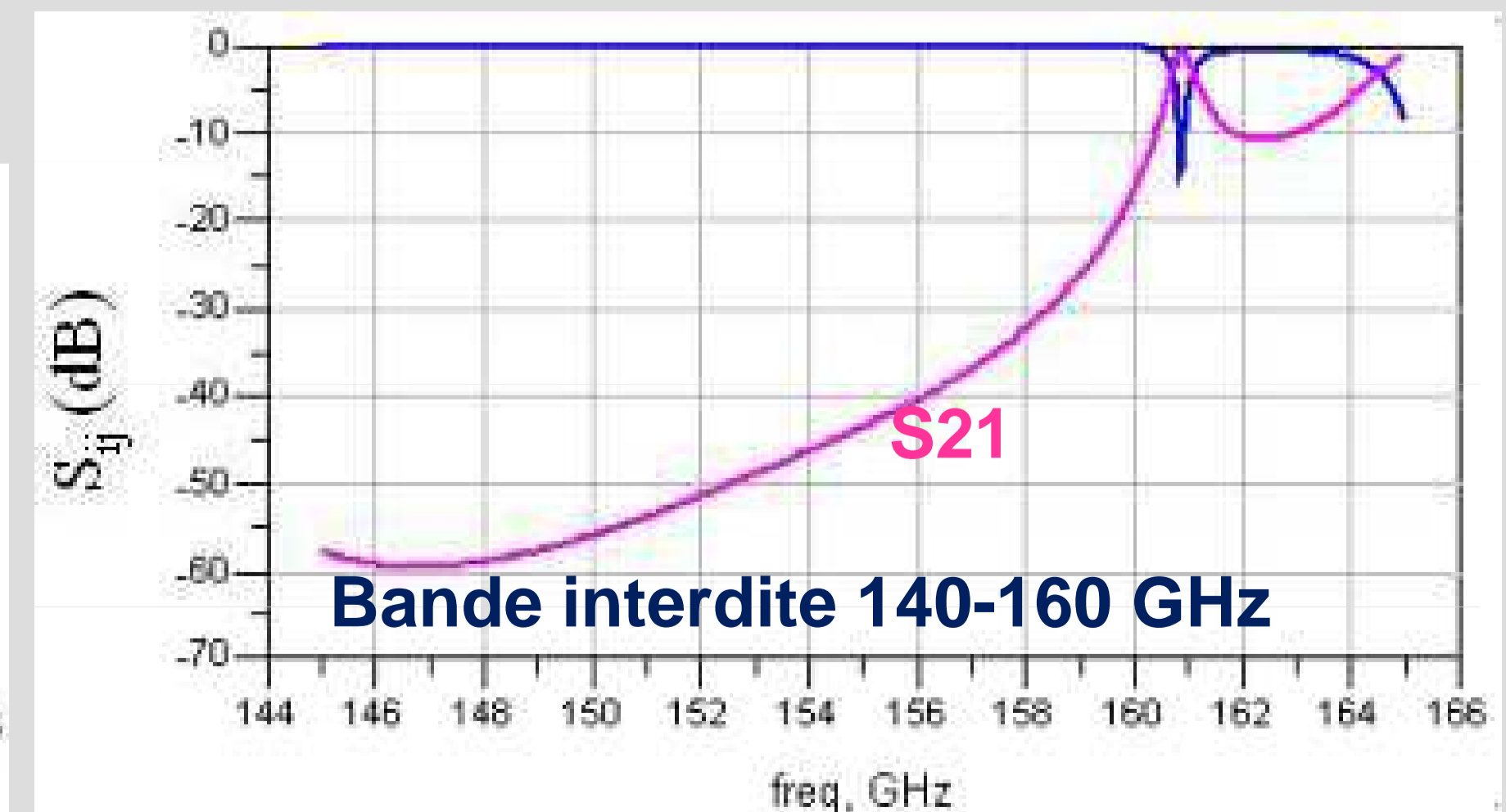
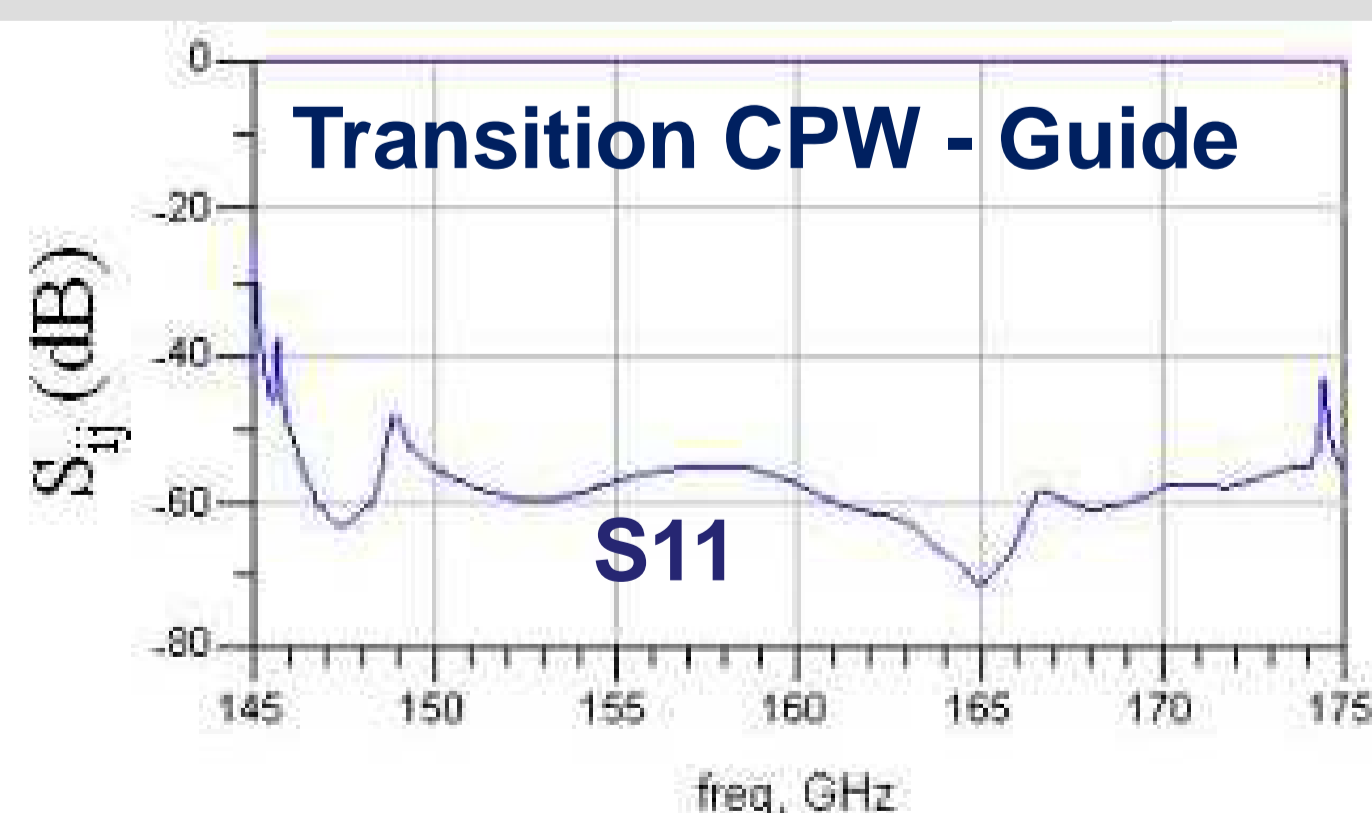
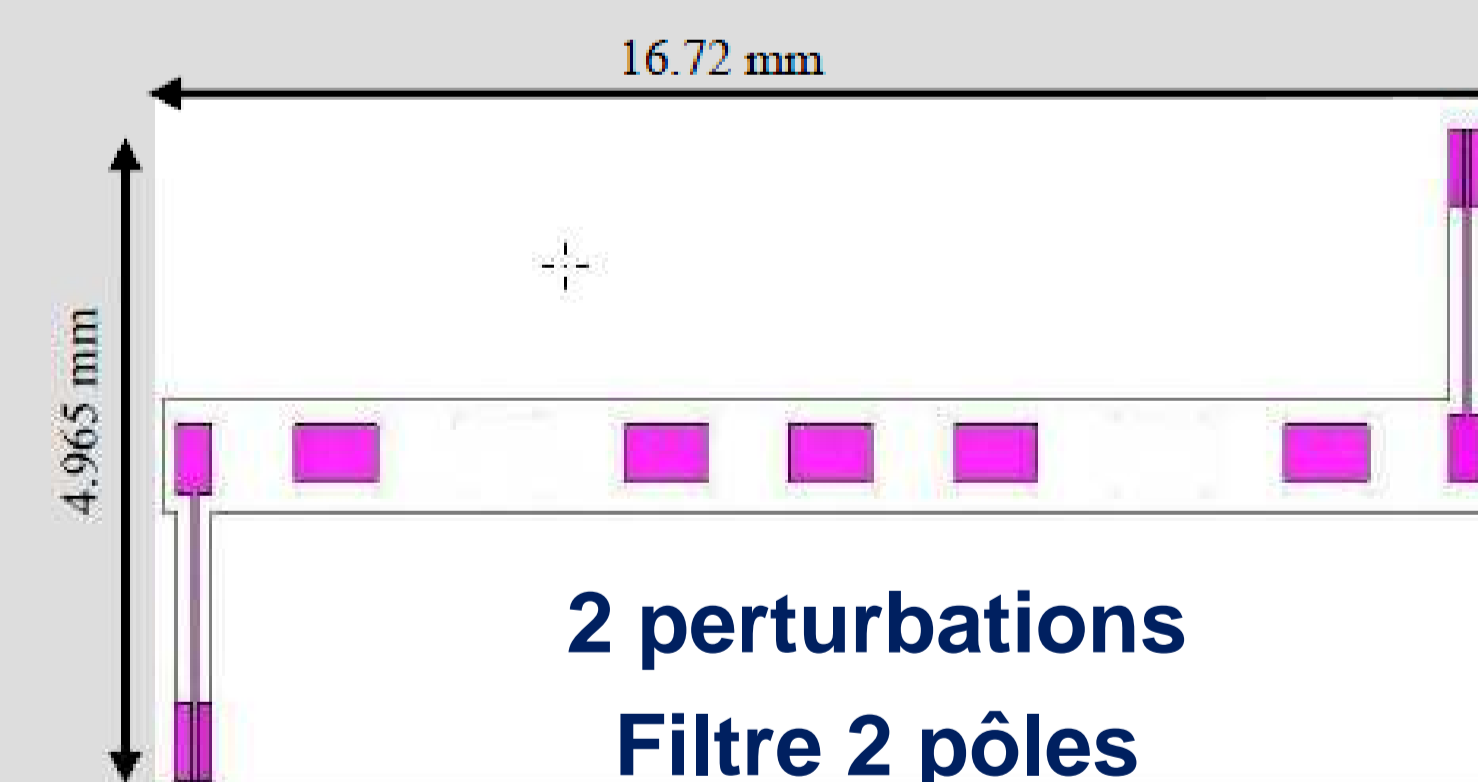
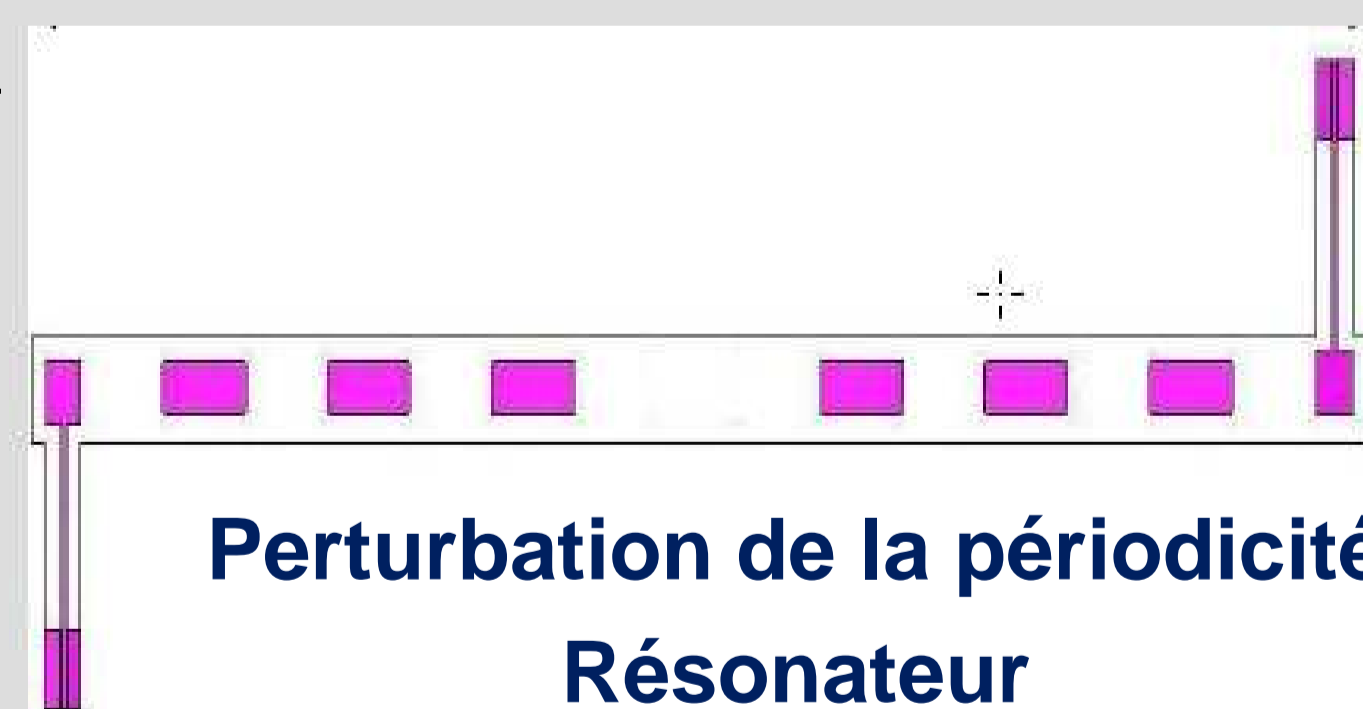
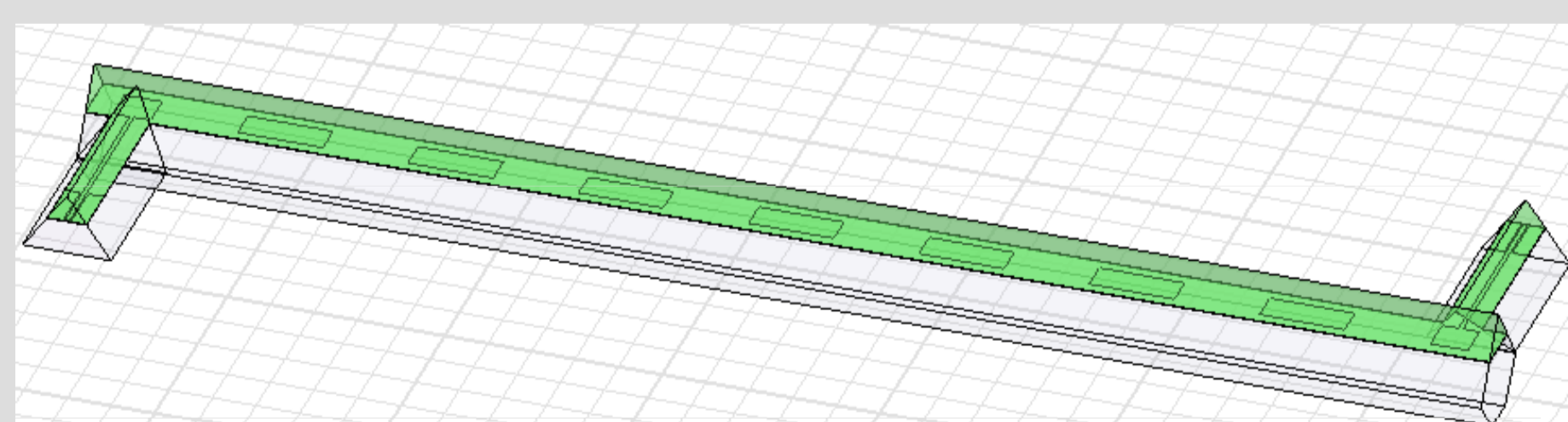
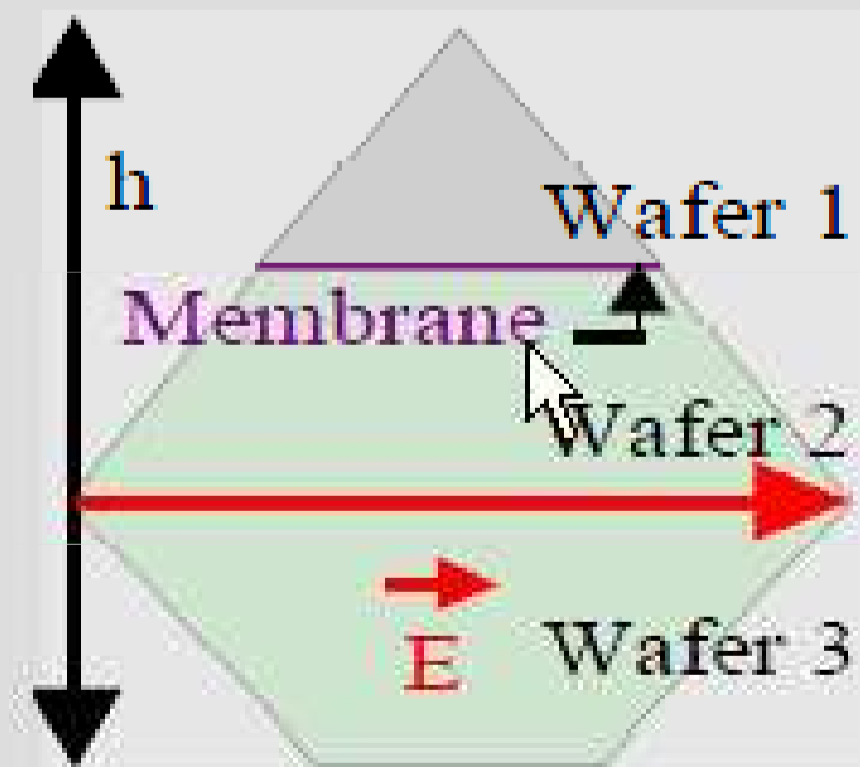
$\eta_{ins} = 4.5$ dB

$\Delta f = 4\%$

Accès coplanaires pour mesures.
Structures blindées pour éviter le rayonnement



3. Structures à bande interdite pour augmenter le coefficient de qualité



4. Conclusion

- Filtre 2 pôles micro-usinés à 150 GHz – Q_0 # 230
- Structure à bande interdite pour augmenter le Q_0 : simulation # 800