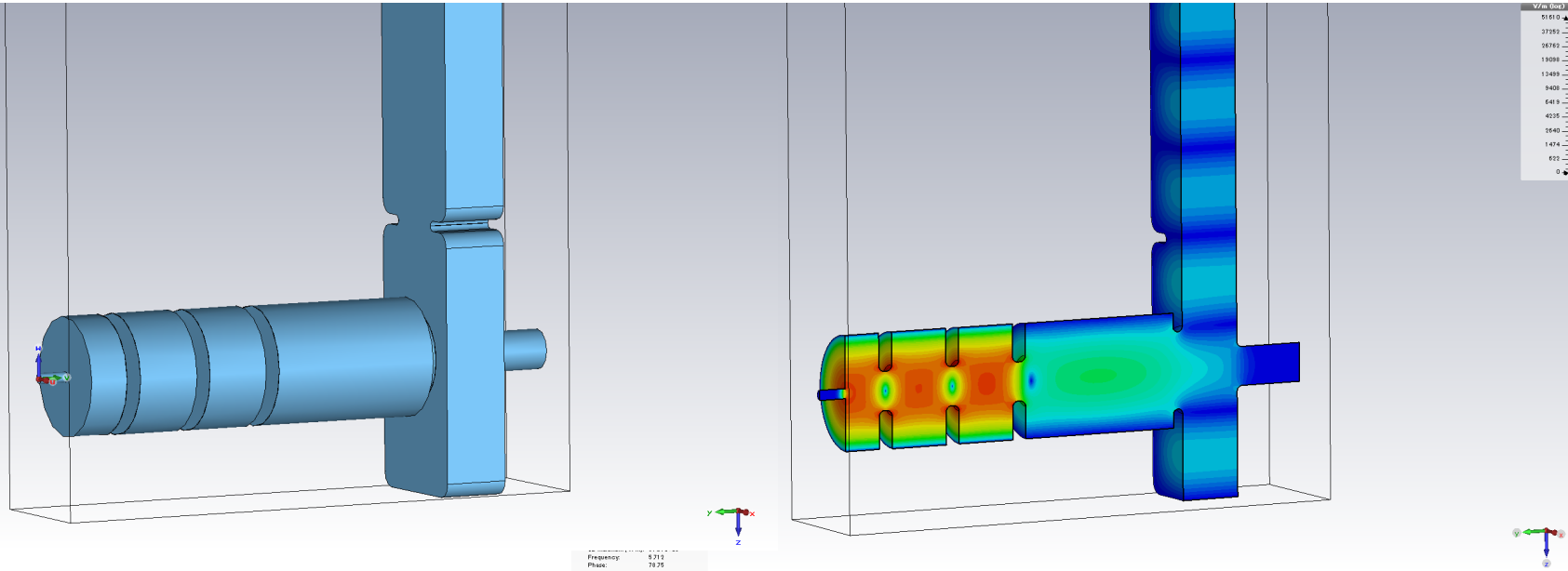


# クライオ光陰極高周波電子銃開発

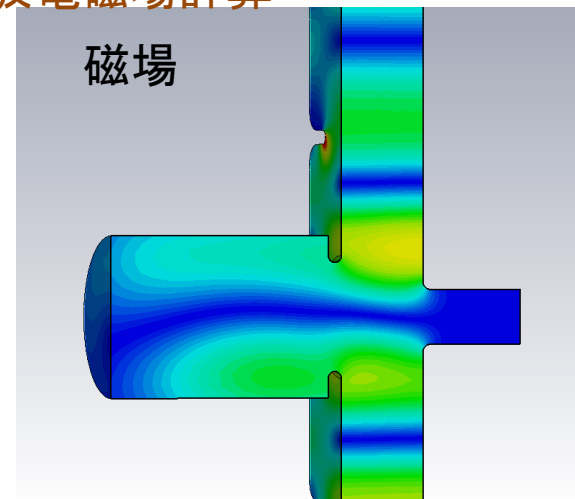
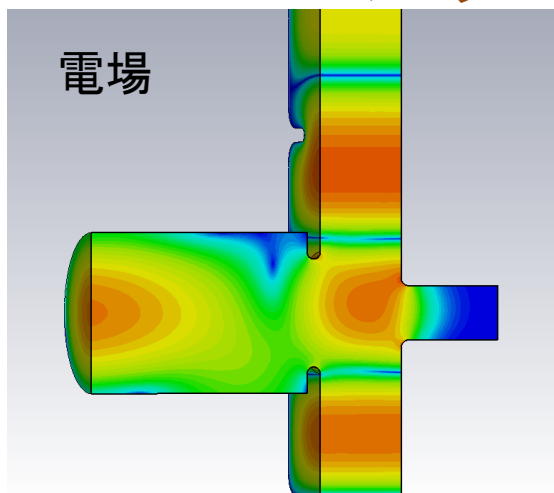
田中俊成、境 武志、中尾圭佐、野上杏子、稲垣 学  
日本大学量子科学研究所

# CST Studioによる3D電磁界計算(2014年度製作空洞の見直し)

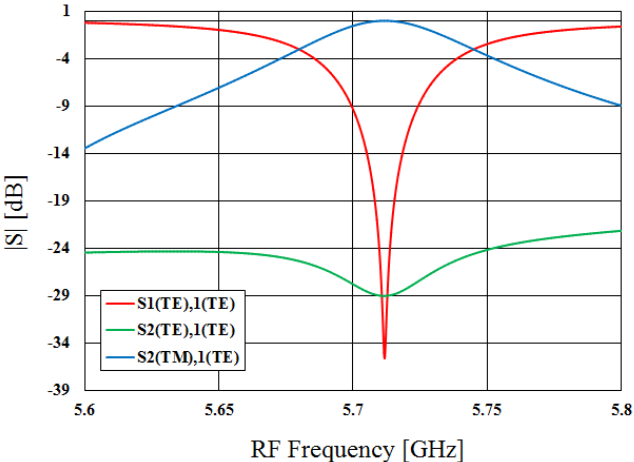
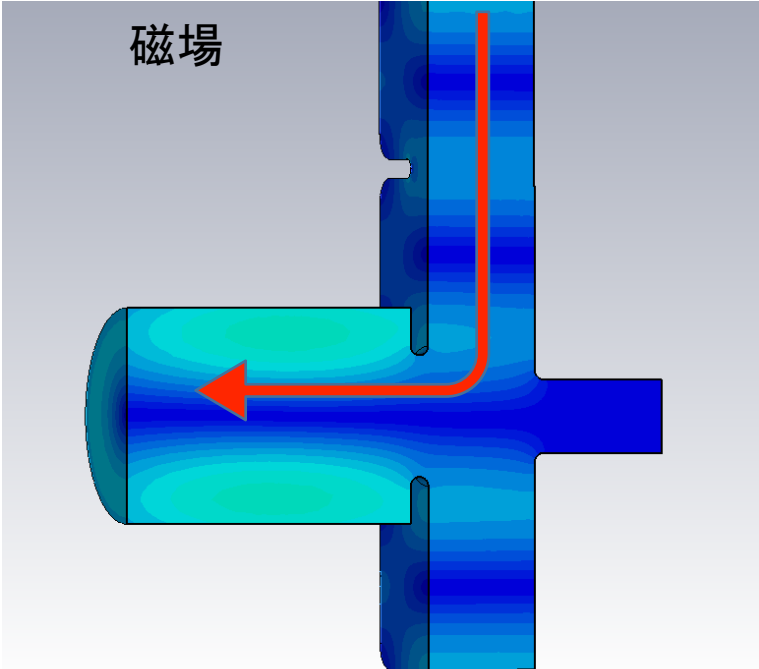
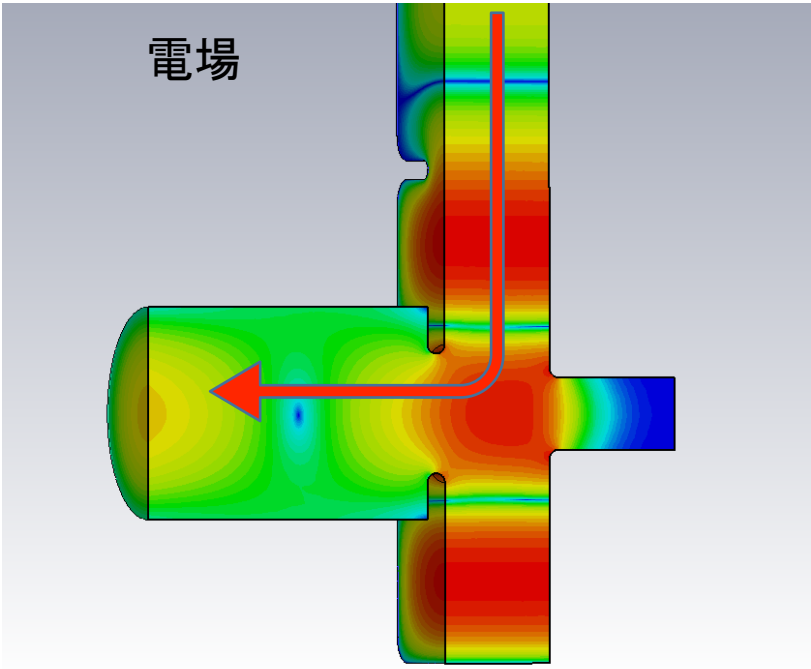
20 K 下での寸法及び表面抵抗 5712MHz



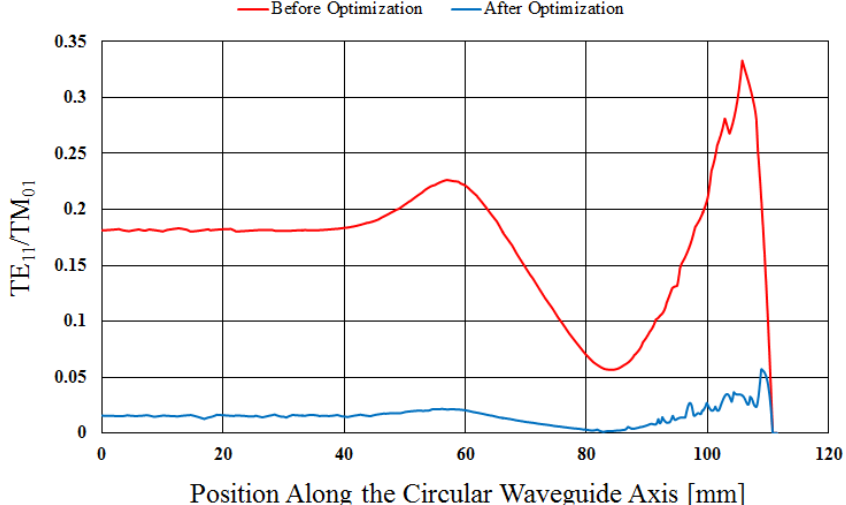
カプラーのみの進行波電磁場計算



# 進行波についてカプラーアイリスを最適化

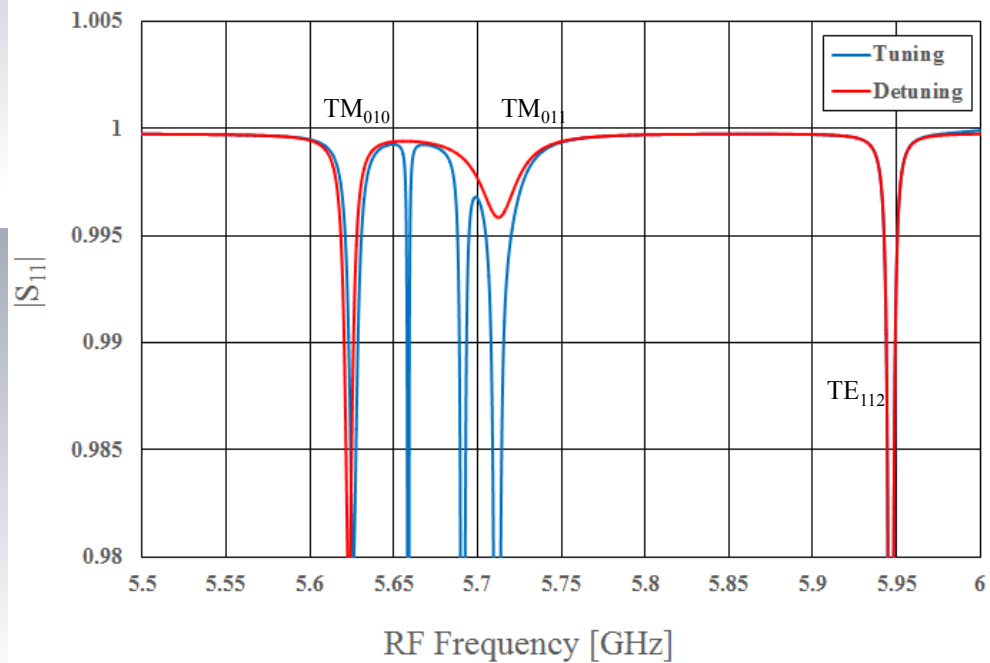
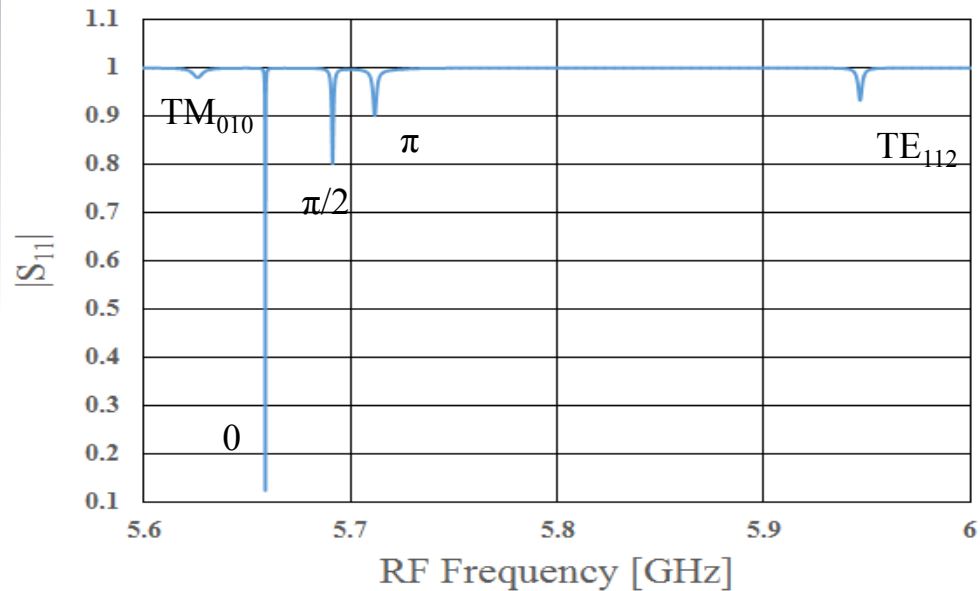
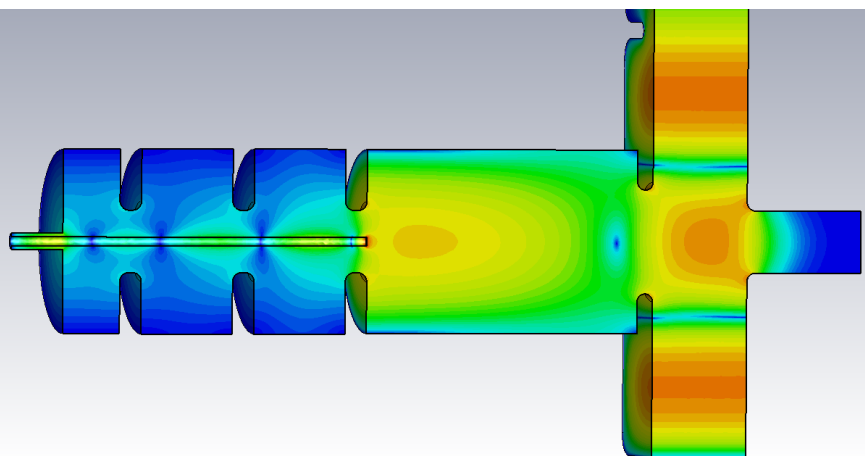
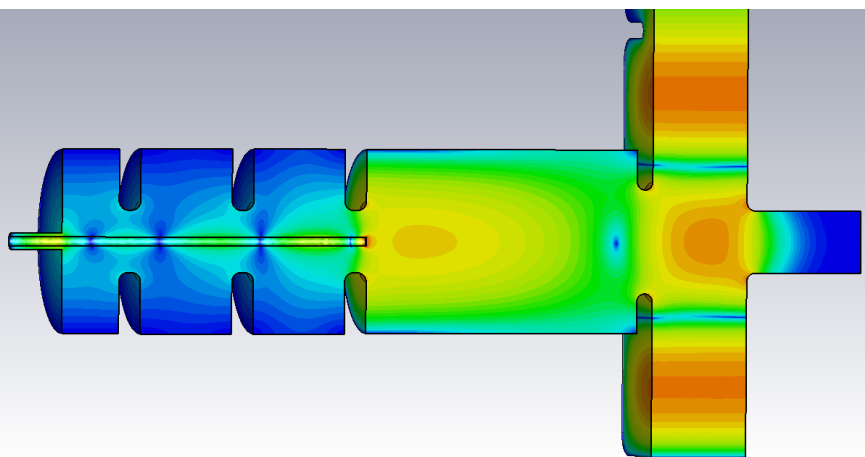
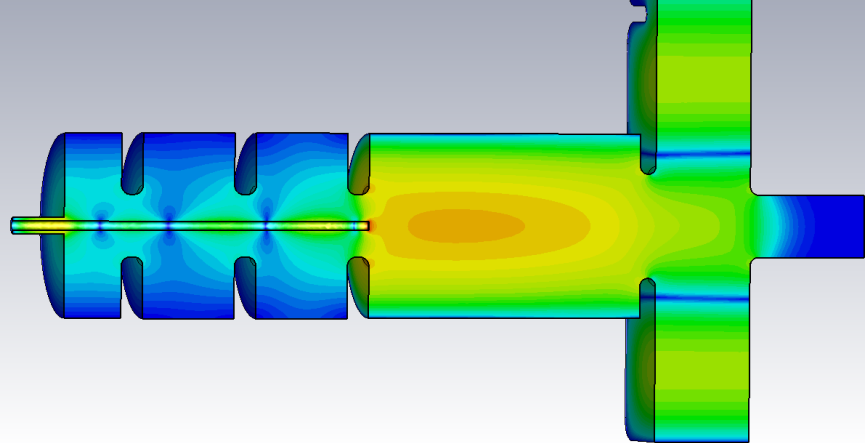


VSWR 1.033  
@ 5711.76 MHz



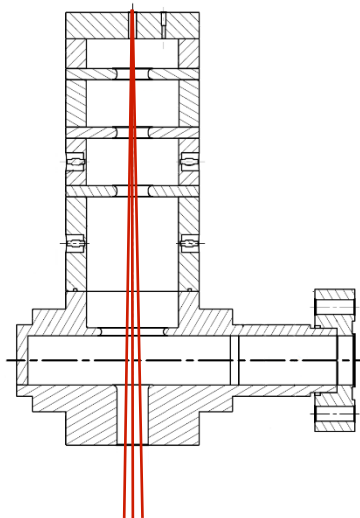
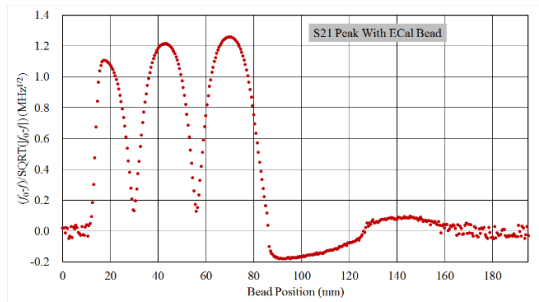
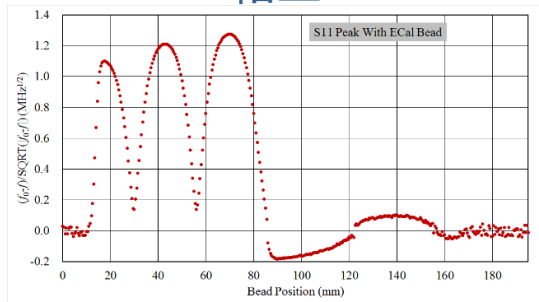
非軸対称電場成分を約1桁低下

# 最適化したカップラーと Pillbox Cavity の結合計算

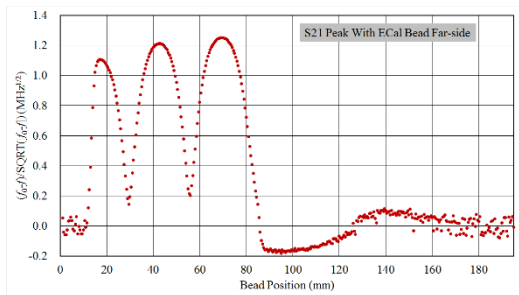
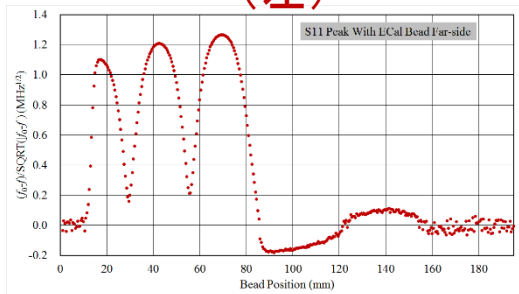


# 設計周波数に調整後 (設計値+20kHz) 円筒導波管部分の 中心軸周辺測定

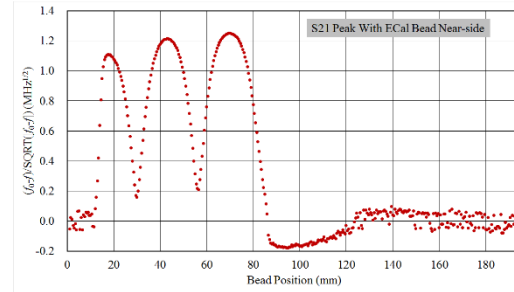
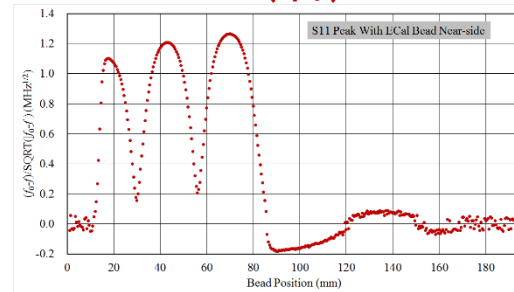
軸上



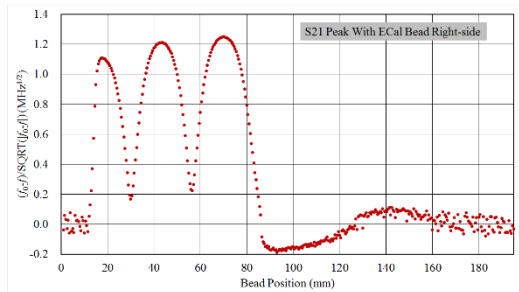
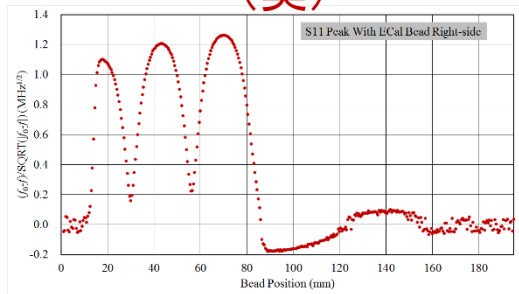
(左)



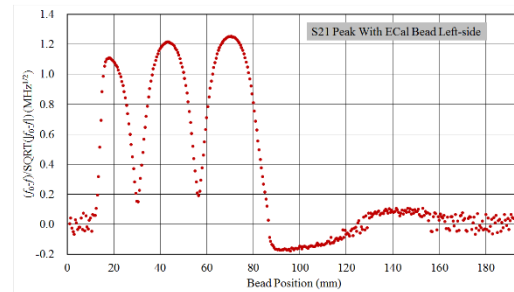
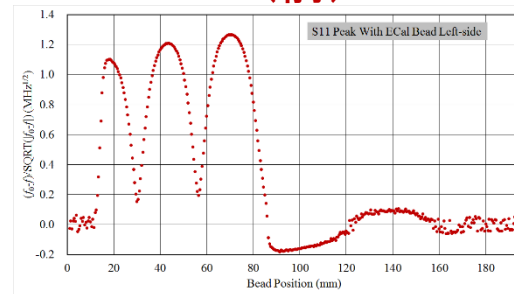
(右)



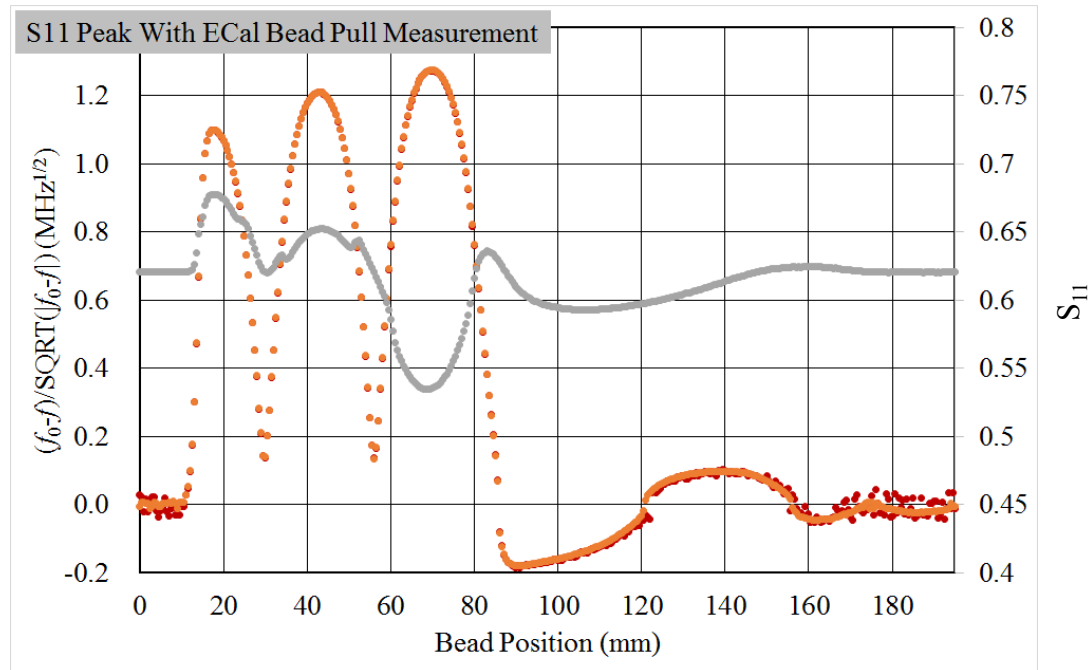
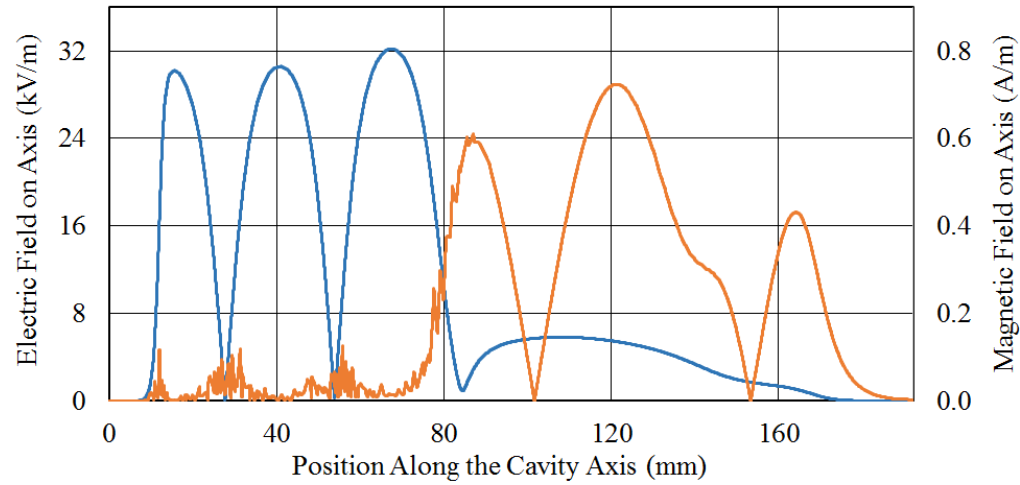
(奥)



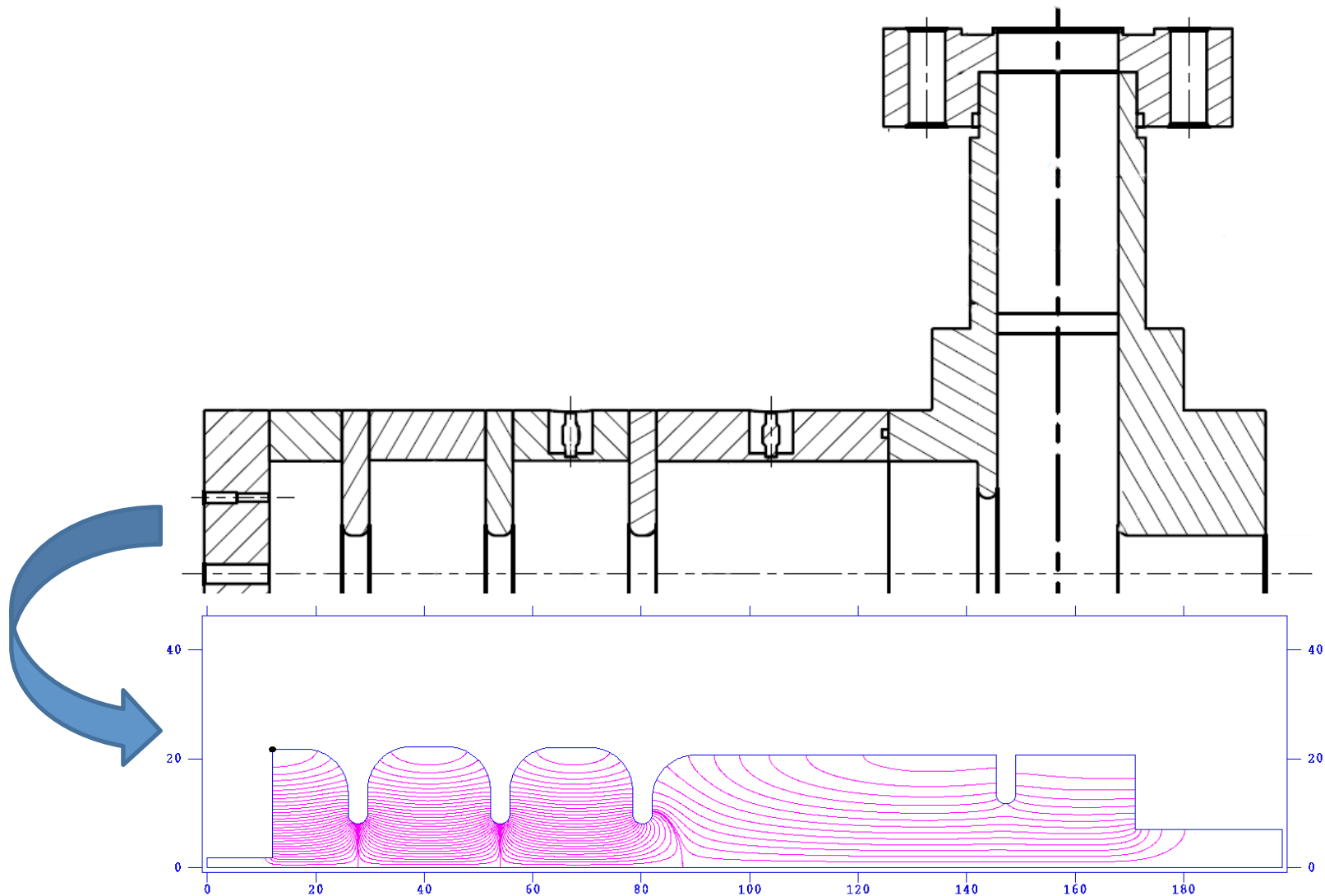
(前)



# Bead Pull測定における円筒導波管部周波数上昇 (軸上磁場発生?)



# 2015年度における検討： 空洞形状の最適化



SUPERFISH 軸対称構造のみ仮定した寸法サーチ結果