

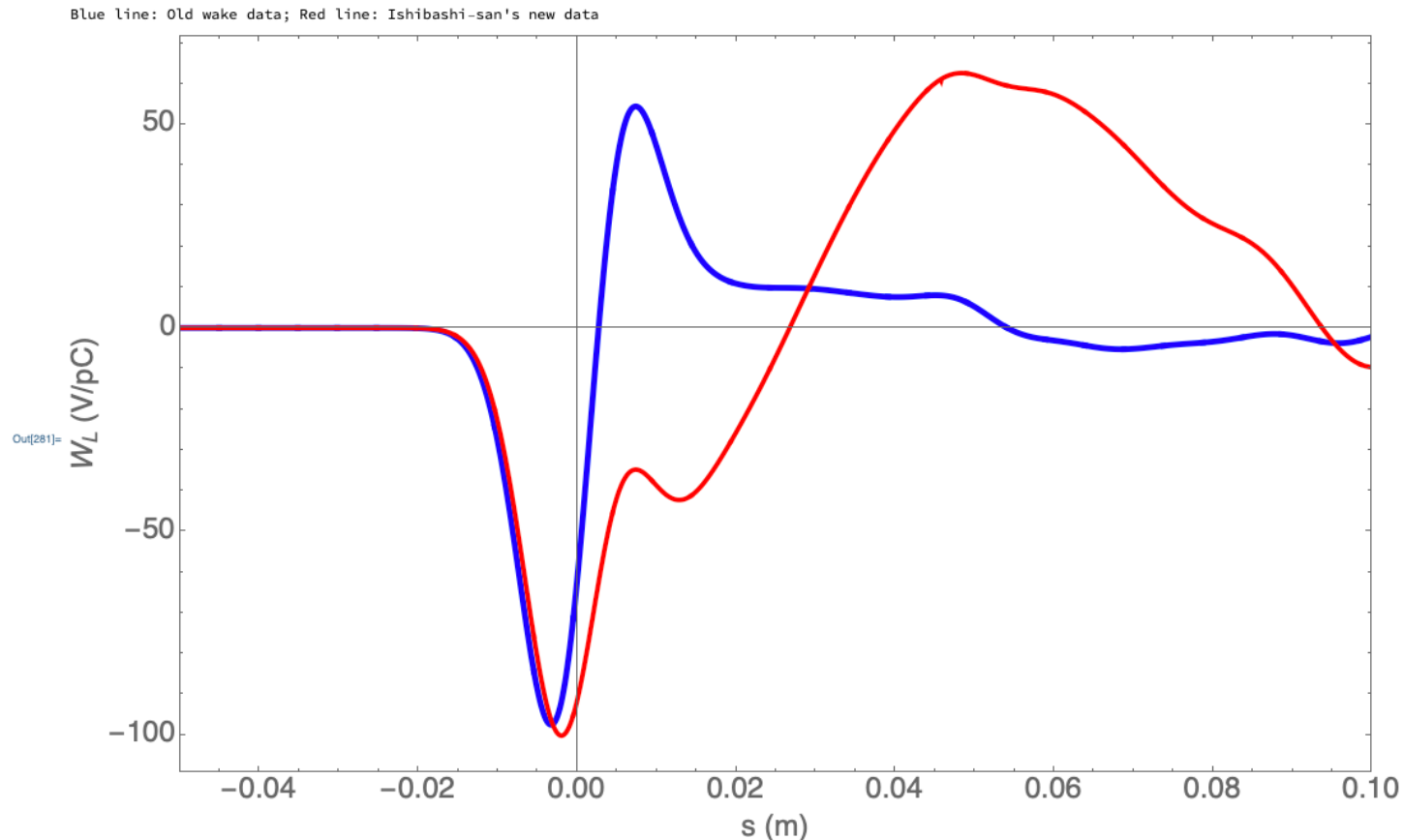
Impedance modeling for SuperKEKB main ring (follow-up 1)

2023-01-17

T. Ishibashi

Introduction

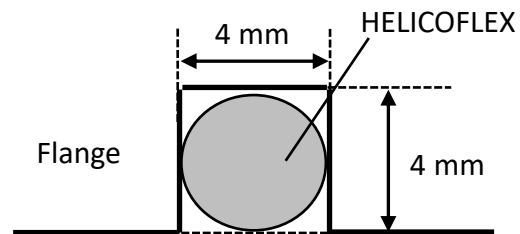
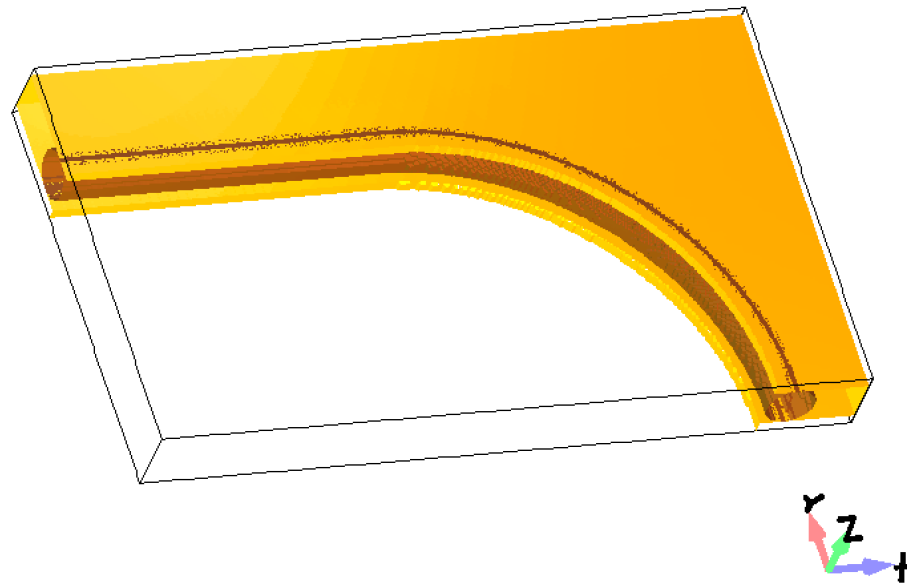
- D. Zhou pointed out that the wake of the flange in HER looks very resistive and unphysical. The wake of the flange more resistive than that of the RF-cavity.
- I checked, remodeled and recalculate the model of the flange.



Model of Flange

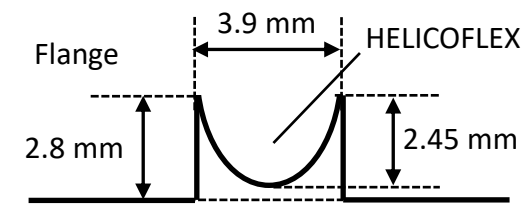
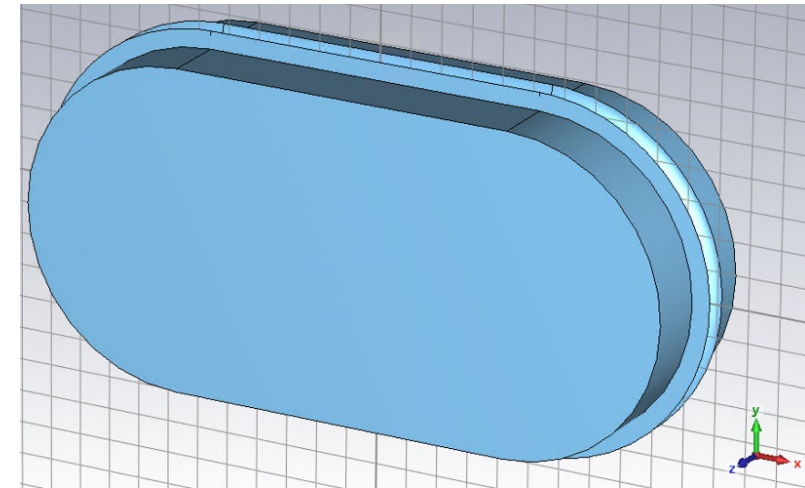
- Old model (gdf_flange_220419) created by K. Shibata.
- New model (gdf_flange_230111) remodeled by me after D. Zhou pointed out.

old (gdf_flange_220419)



beam →

new (gdf_flange_230111)



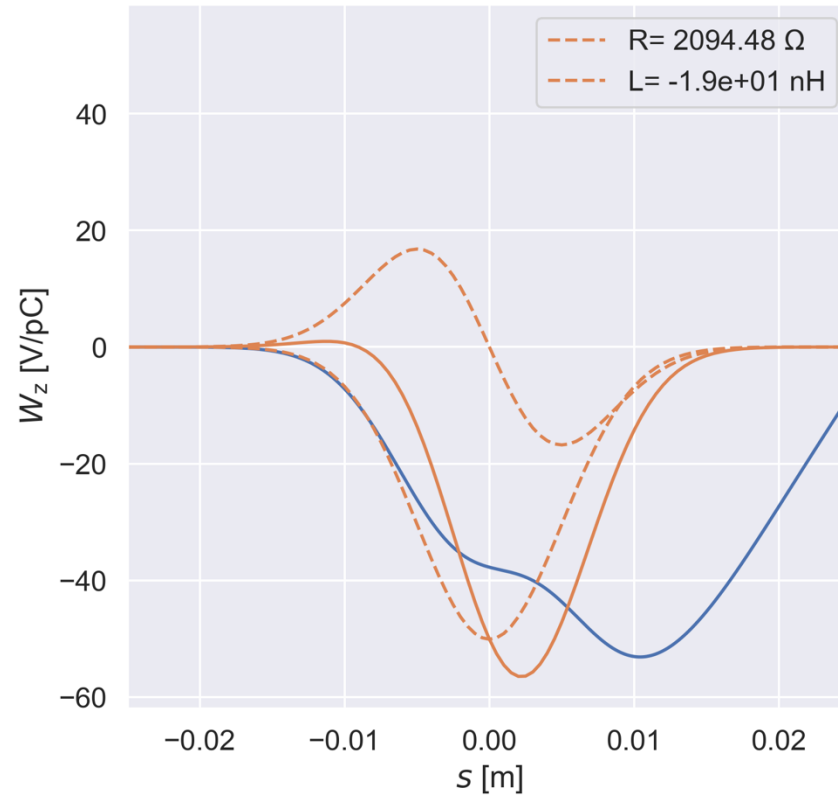
beam →

Wz comparison between the models

$\sigma_z = 5 \text{ mm}$

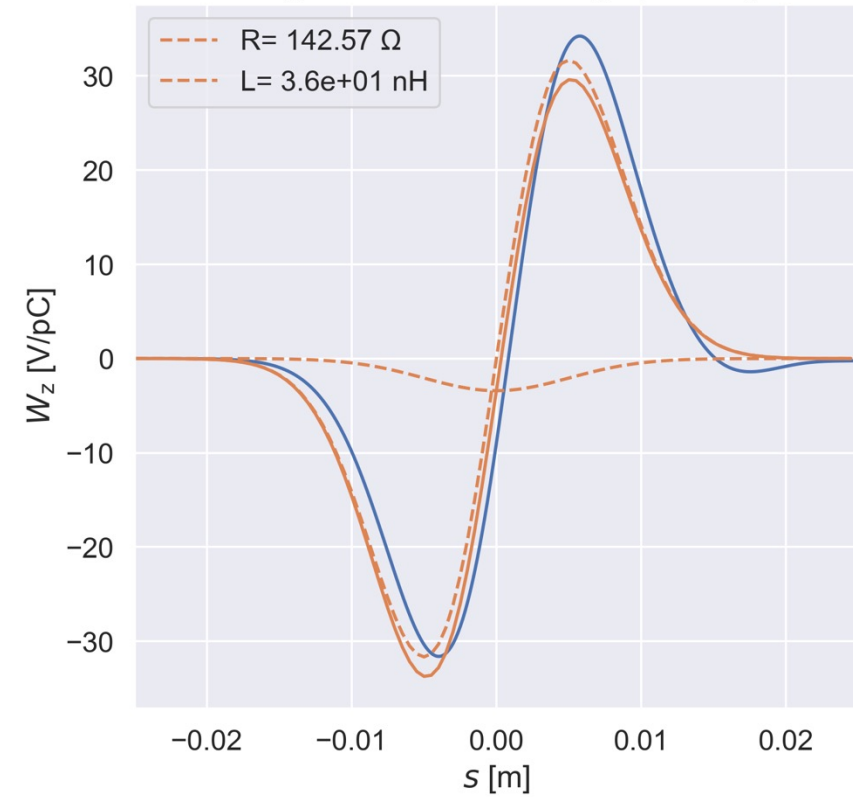
old (gdf_flange_220419)

Longitudinal Wake in Flange (104x50)



new (gdf_flange_230111)

Longitudinal Wake in Flange (104x50)



PyHEADTAIL simulation

- I generated an integrated wake in HER that replaces the wake of the flange with the new model (version2.0).
 - version2.0: using “gdf_flange_230111” for the flange
 - version1.0: using “gdf_flange_220419” for the flange

