



Full detector simulation with rotated B-field

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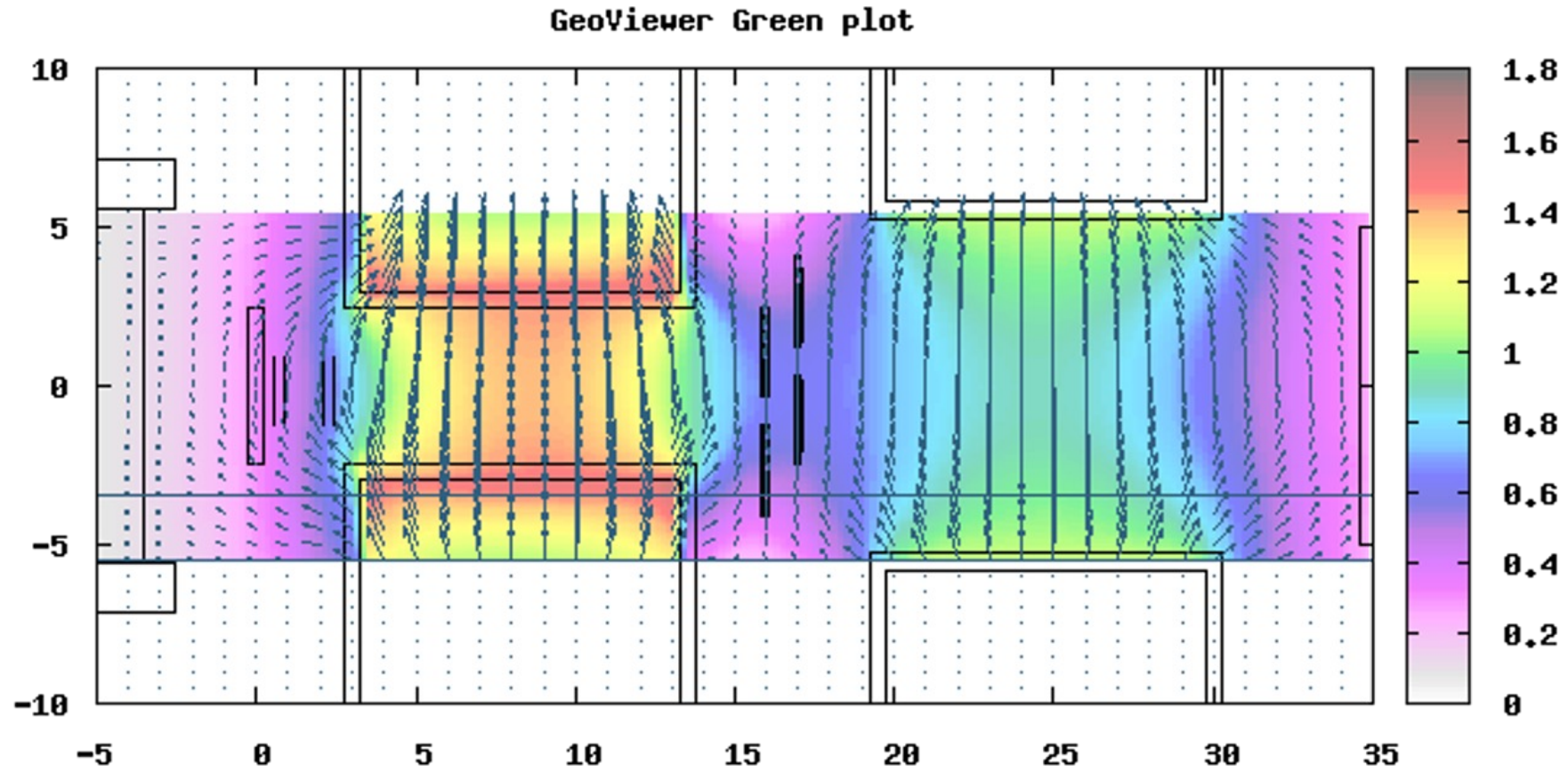
Introduction

Following the recent discussions, we have rotated the direction of magnetic field thus modifying the **12C_200_2023** campaign, as presented at the FOOT general meeting.

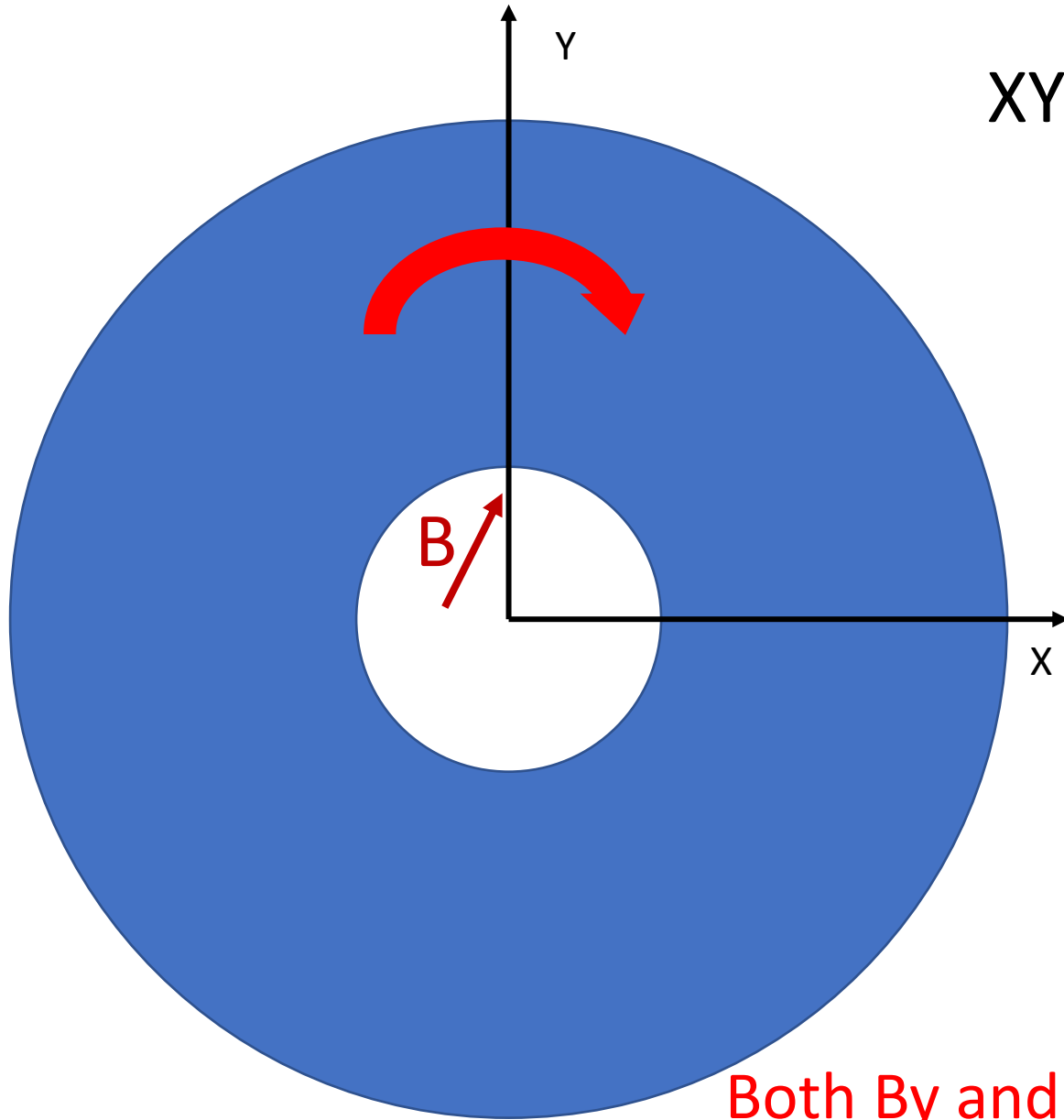
A new campaign has been prepared: **12C_200_2023v2** within the newgeom_v1.0 branch of shoe: we agreed that this was a cleaner solution in order to avoid problems to those who were already working with the 12C_200_2023

To this purpose the existing map of magnetic field has been rotated following the specifications illustrated in the next slides

ORIGINAL MAP

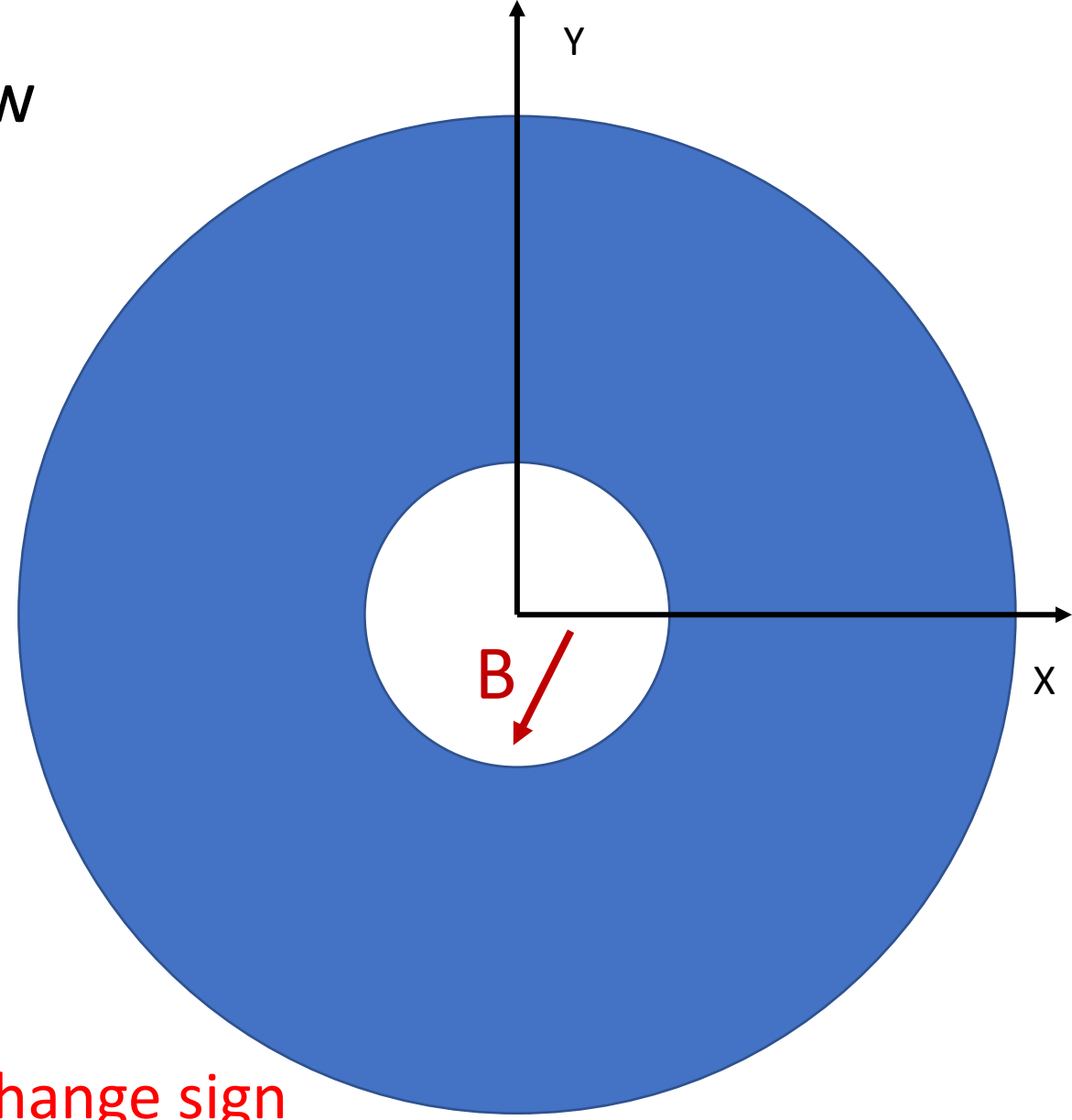


Before rotation



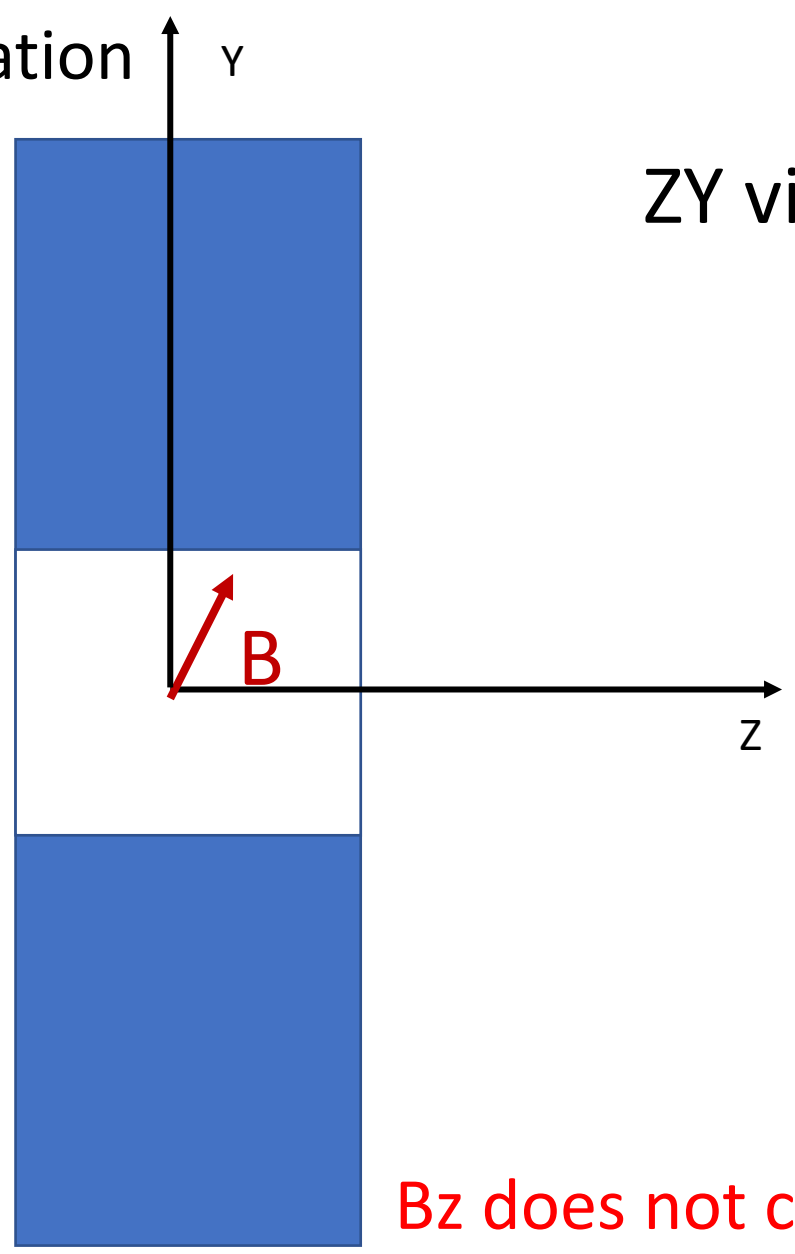
XY view

After rotation

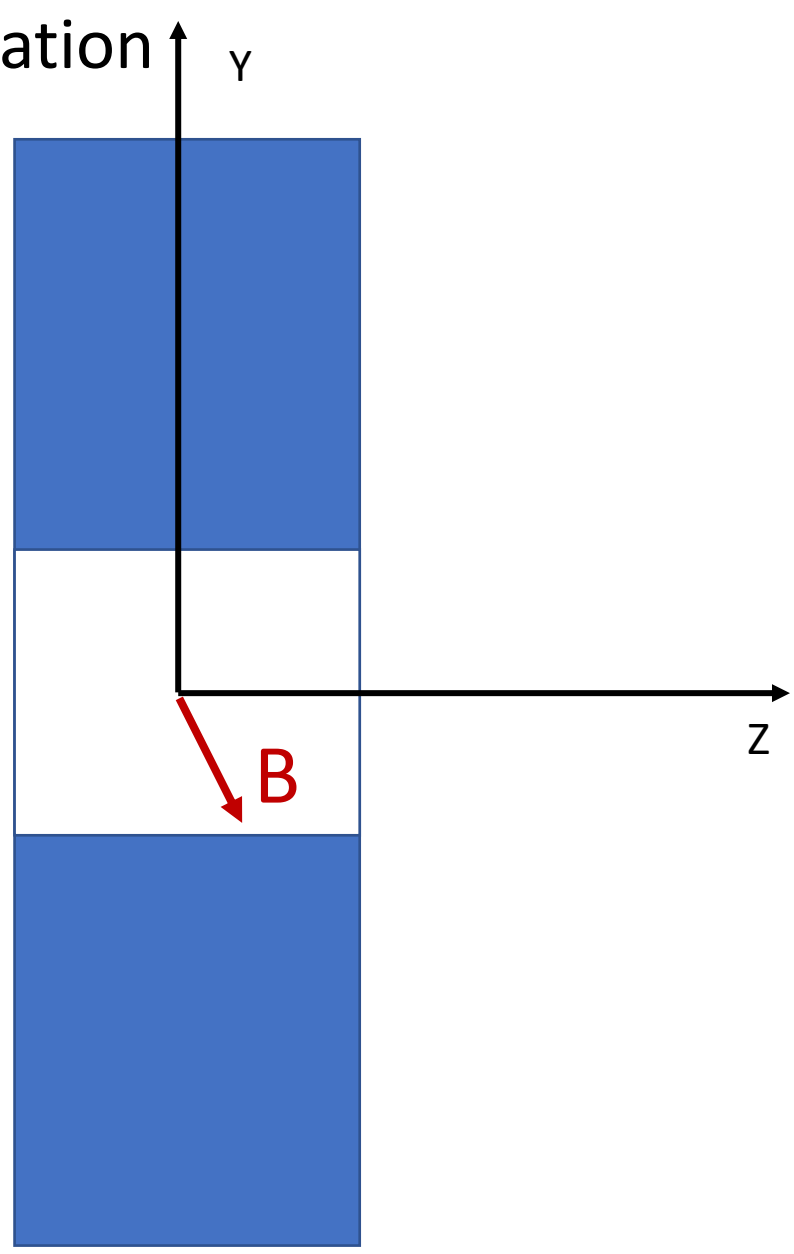


Both B_y and B_x change sign together with x and y of point

Before rotation



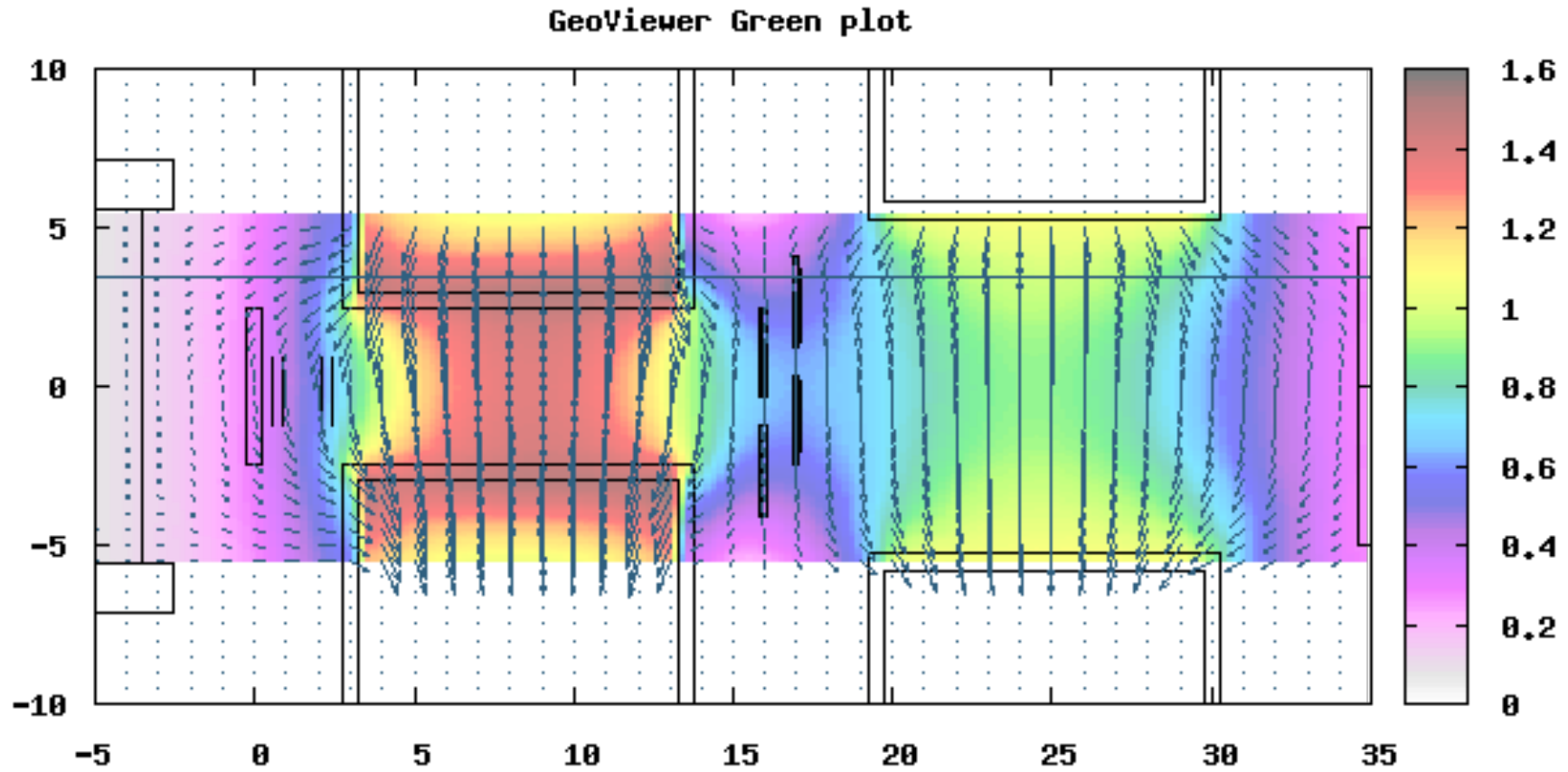
After rotation



ZY view

Bz does not change sign
z coordinate unchanged

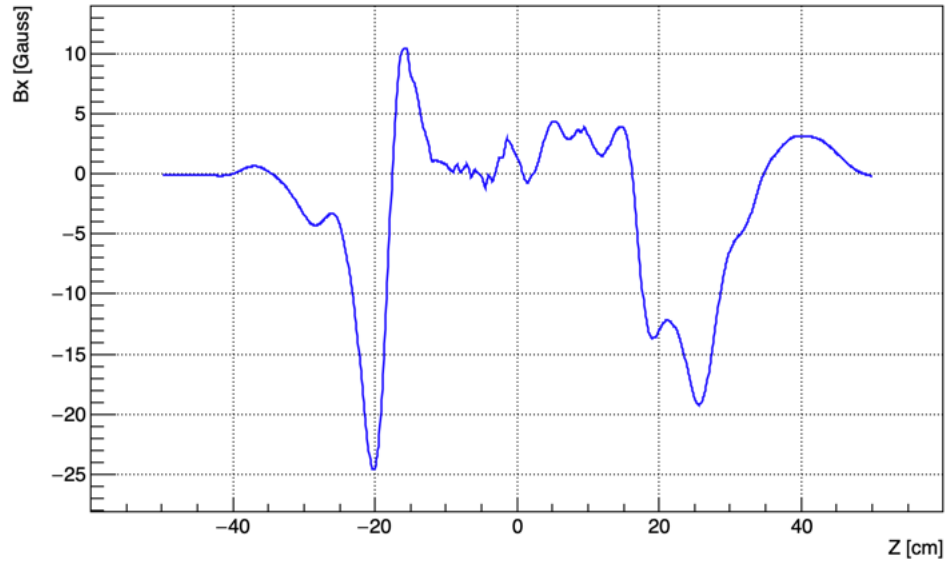
NEW ROTATED MAP



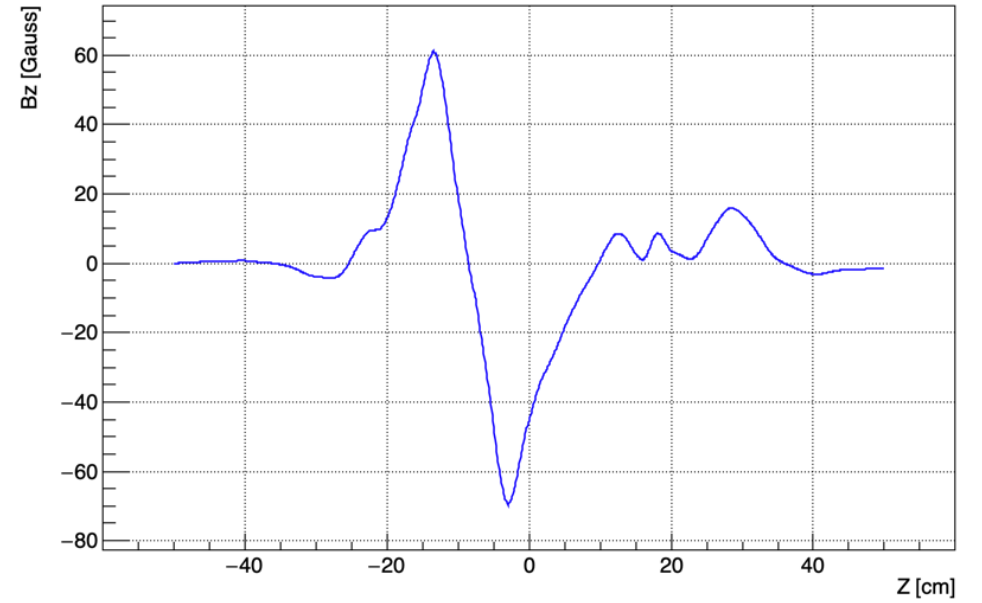
→ [shoe/Reconstruction/data/SigmaPhi FOOT2023rot.table](#)

Along the central axis

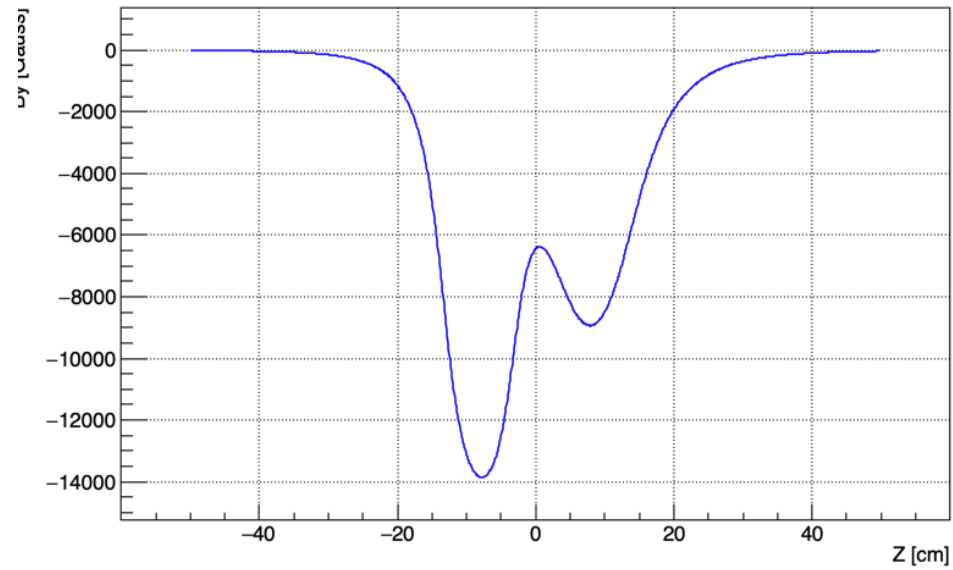
Bx vs z



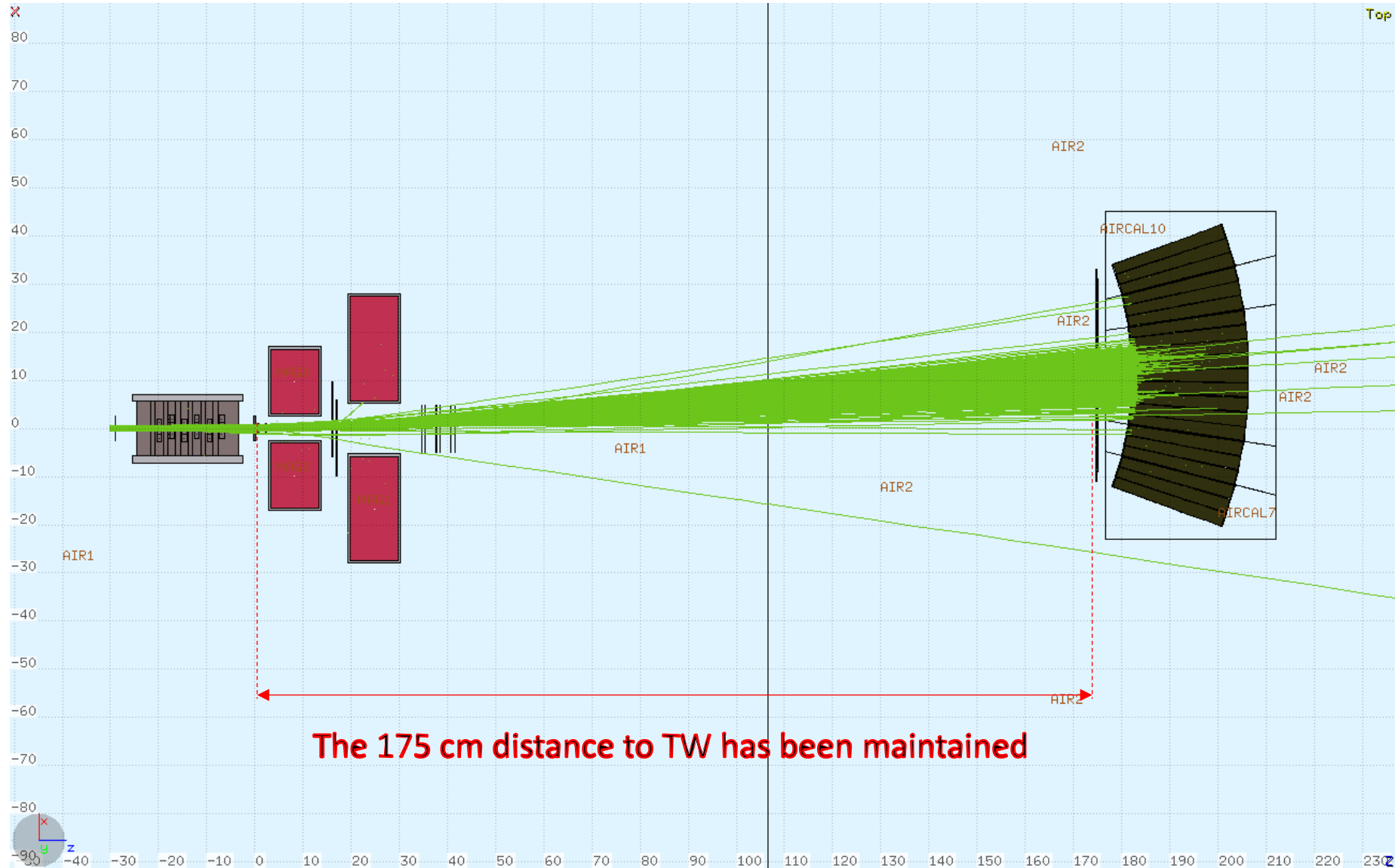
Bz vs z



By vs z



12C_200_2023v2 new design



TW and calo have been obviously shifted in the opposite direction

The 175 cm distance to TW has been maintained

Conclusions

The new setup with the desired direction of magnetic field is ready

This is included the new campaign **12C_200_2023v2**

A new production will be prepared soon (checks are being completed).

At this point we do not consider any more necessary to upload on Tier3/Tier1 the 12C_200_2023 production announced during the FOOT general meeting (unless requested)