

# How do I plan to spend my summer in DESY

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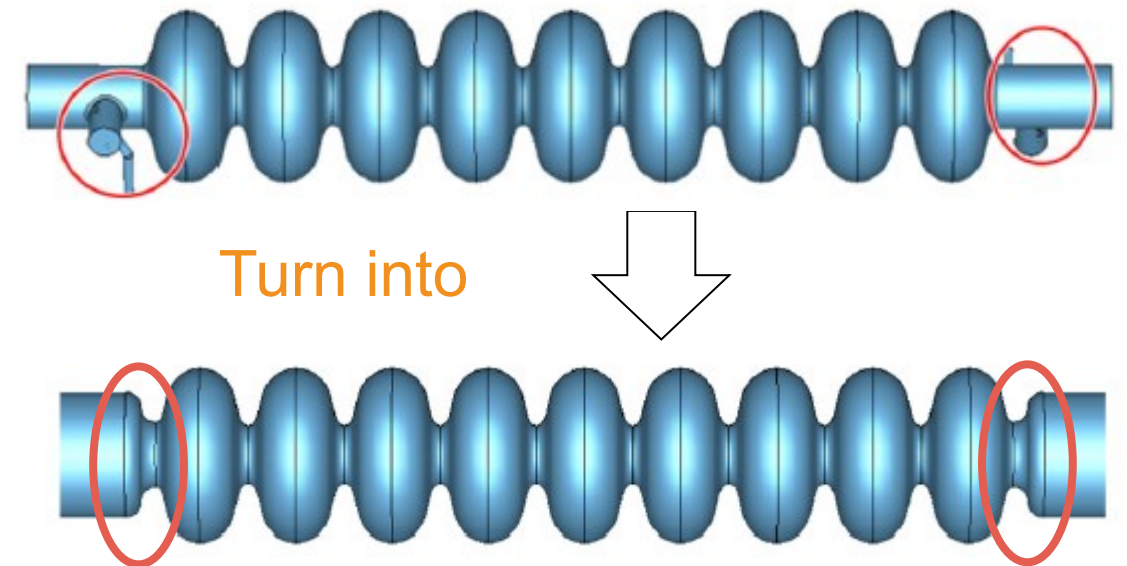
# How to become a successful man in MEPHI? (Part 1)

The answer is a creating superconducting cavities with low values of Higher Order Modes.

National Research Nuclear University MEPHI

## Higher Order Modes Damping in 9-cell Superconducting Cavity with Grooved Beam Pipe

- Couplers have complicated design and could be subject to multipacting discharge. Their presence also leads to break of accelerating structure axial symmetry.
- Grooved beam pipes haven't these problems. The cost of cavity production is less then for cavity with couplers.

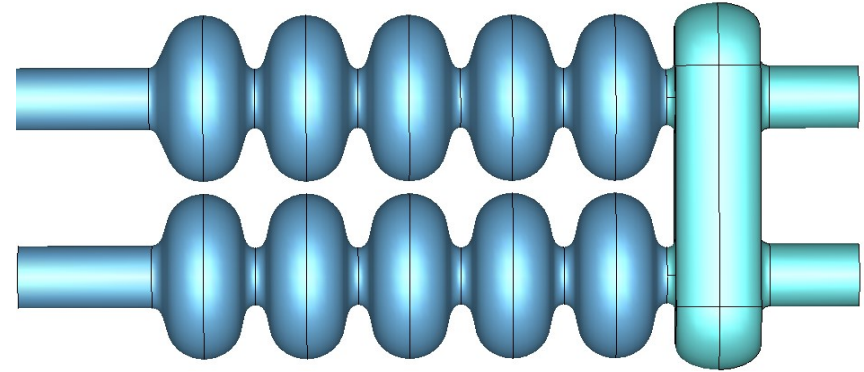


# How to become a successful man in MEPhI? (Part 2)

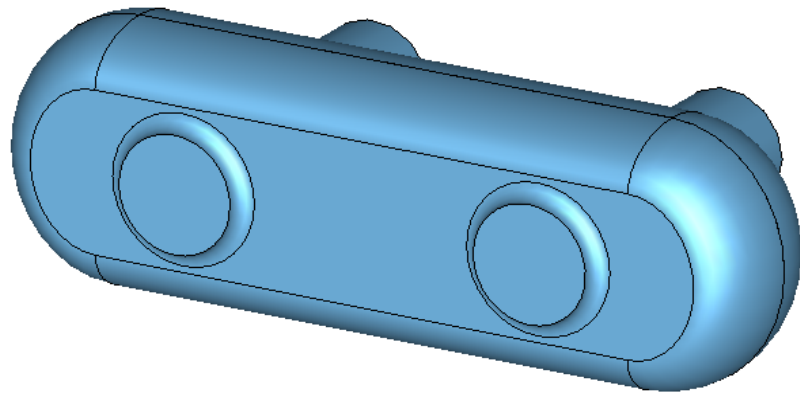
The answer is a creating superconducting bridge with low values of electric and magnetic fields on the surface.

## The Dual Axis

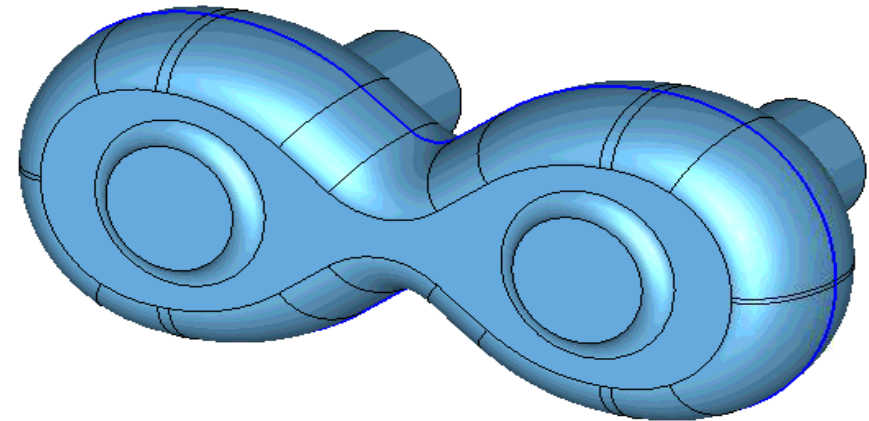
- Before we began to study HOM in this structure, we need to decrease maximum values of electric and magnetic field on the surface
- This project wasn't finished yet, but the main part of it was done.



The Energy recovery linac



The old type bridge



The new type bridge

# How to become a successful man in DESY?

The answer is a creating perfect solenoid

## The first step

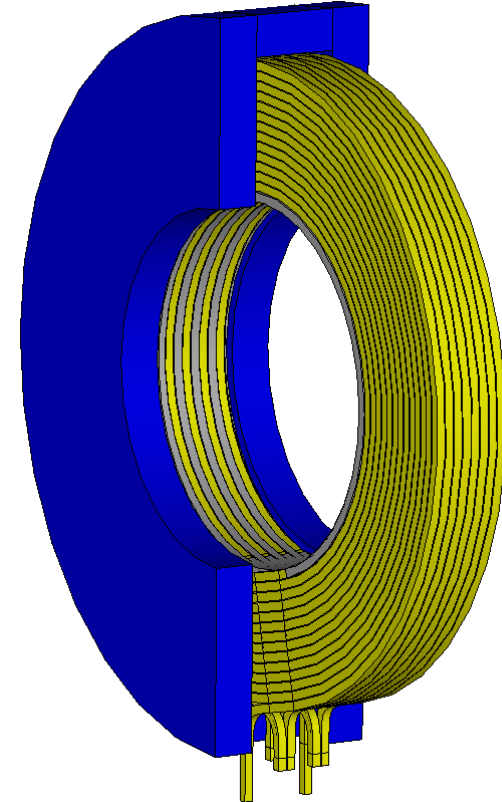
- Try to use the existing model (“The first model”)

## The second step

- Build a perfect model without separated asymmetries.

## The third step

- Build a perfect model with separated asymmetries. Compare results with previous model and find differences in results.



# If I do all previous steps, I'm not so bad.

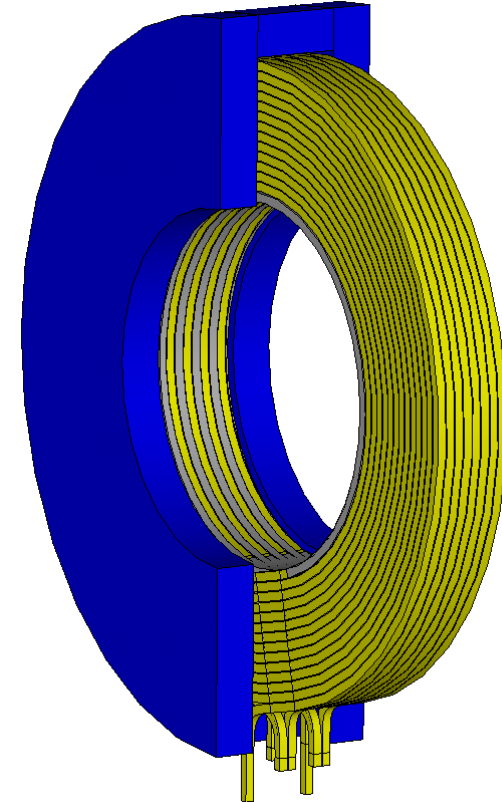
We have the big plan. Today we create solenoid, tomorrow we will receive a Nobel price. But all not so easy and we need some more steps.

## The fourth step

- Build a new “the second model” of the solenoid. It will be a model of current version of solenoid.

## The fifth step

- I don't get it. Can you help me?



The main task of the project to become a famous scientist to reach as good as possible emittance and form of pulse in the displacement of solenoid

# Thank you

If I made some mistakes, sorry, I just only a student who wants to become a scientist, not a scientist.

## Contact

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