



Handmade Accelerator

Accel Kitchen & Beamline for schools 2024 winner

Mihiro Nukiwa

Bracelet

Background



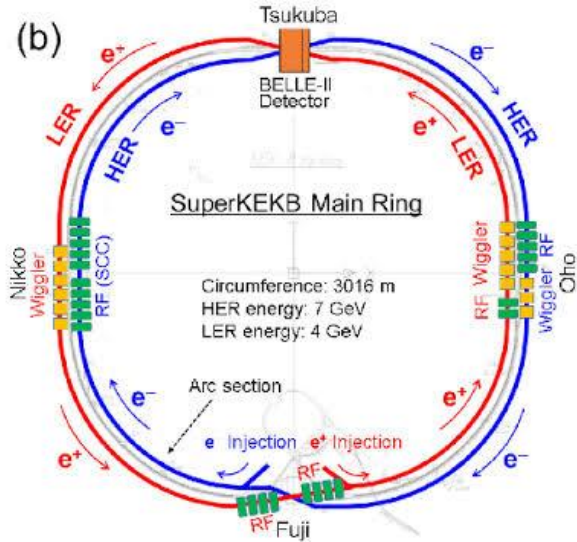
Can only see a part



No chance for interaction

The creation of the SuperKEKB bracelet

(SuperKEKB Accelerator: A positron-electron collider located at KEK (High Energy Accelerator Organization))



How to make the SuperKEKB bracelet

Required Parts



Belle detector



Electromagnets for Positrons



Electromagnets for Electrons



Ring



Acceleration Cavity

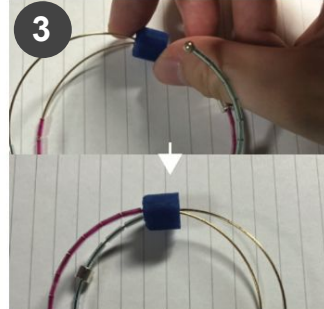


Injector



Electrons and Positrons

Procedure



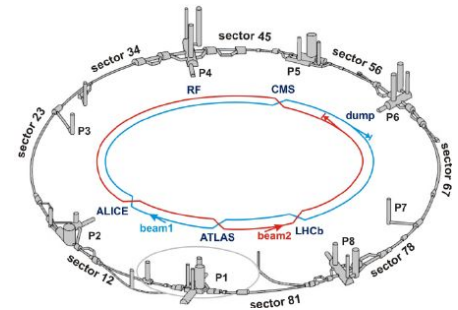
A workshop held during the KEK Open House.

- 30 minutes per sessions, 10-15 participants per sessions
- estimated nearly 200 people experiencing the activity



Proposal of the LHC bracelet

- Can be made for about **\$ 1 per** piece.
- Consists of two strands, featuring major detectors such as CMS, ALICE, ATLAS, and LHCb, created using a 3D printer.
- Conduct an interactive workshop at the Science Gateway
- Distribute creation kits for accelerator visitors.



What we can do

- Send you a sample of the completed SuperKEKB bracelet
- Can suggest designs, recipes, and ingredients as well
- If you hold a bracelet-making workshop, I can **provide all the necessary parts**
- If you have any opinions or suggestions regarding the accelerator bracelets, please contact us at **info@accel-kitchen.com** .

Conclusion

- Thank you for the opportunity to present at the wonderful platform of IPPOG
- I am thinking of creating bracelets inspired by particle accelerators from around the world to provide an opportunity for people to feel closer to the field of particle physics.
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Background

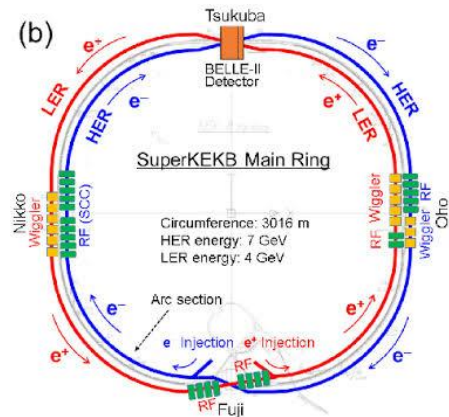
- There are merchandise items themed around particles, but **few are based on accelerators**
- Visitors at accelerator facility open houses tend to “**just watch and listen**”

By creating and taking home a bracelet inspired by the accelerator after the tour, visitors might find the extraordinary world of accelerators more approachable and engaging ?

The creation of the SuperKEKB bracelet

✂ SuperKEKB Accelerator: A positron–electron collider located at KEK (High Energy Accelerator Organization)

- By making it double–stranded, the bracelet more accurately represents the positron and electron lines.
- The Belle detector was modeled using CAD software and fabricated with a stereolithography 3D printer.



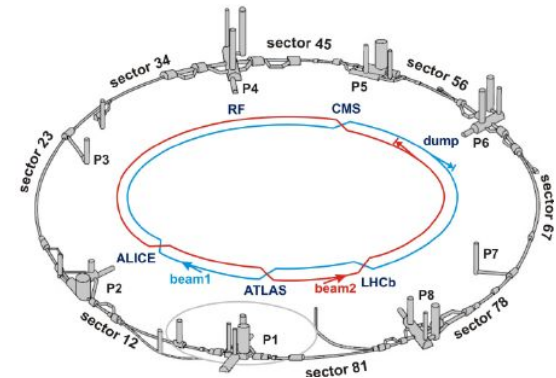
A workshop held during the KEK Open House.

- Each session was held in 30-minute sessions, with a capacity of around 10 to 15 participants per session.
- It was a great success, with an estimated nearly 200 people experiencing the bracelet-making activity



Plan of the LHC bracelet

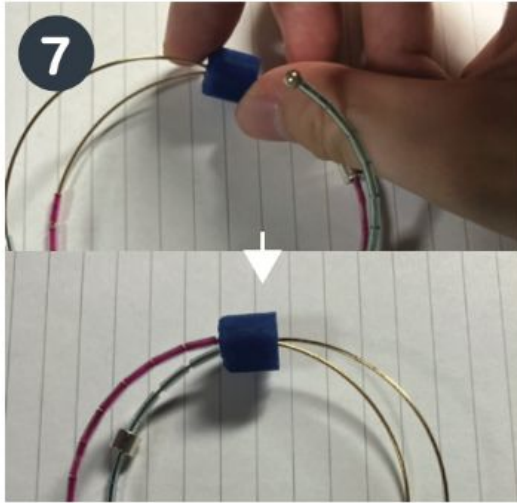
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How to make the SuperKEKB bracelet



How to make the SuperKEKB bracelet



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