

Significance of participating in ILC- related R&D as a regional company located near an ILC candidate site

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Kondo Equipment Co.,Ltd.**

Basic Information

Kitakami Regional Head Office



〒024-0014

6-13 Distribution Center, Kitakami-shi, Iwate

TEL 0197-62-5090 FAX 0197-62-5091

Other sales offices

- Head Office (Nishi-Waga Town)
- Hanamaki Plant
- Morioka Sales Office
- Miyako Sales Office
- Sendai Sales Office
- Tokyo Sales Office

Date of establishment: April 1, 1974

Number of employees: 99 (as of April 2024)



Our basic business is the design, manufacture, and installation of piping in all fields. This is the piping unit of our flagship product. It is installed in machine rooms of buildings and plants.

construction

Skilled staff with experience in a wide variety of construction sites, including water supply, drainage, sanitation, heating and air conditioning, and fire extinguishing facilities, can handle everything from assembly of processing pipes to installation of equipment and fixtures.



Kioxia Iwate Co.Ltd.



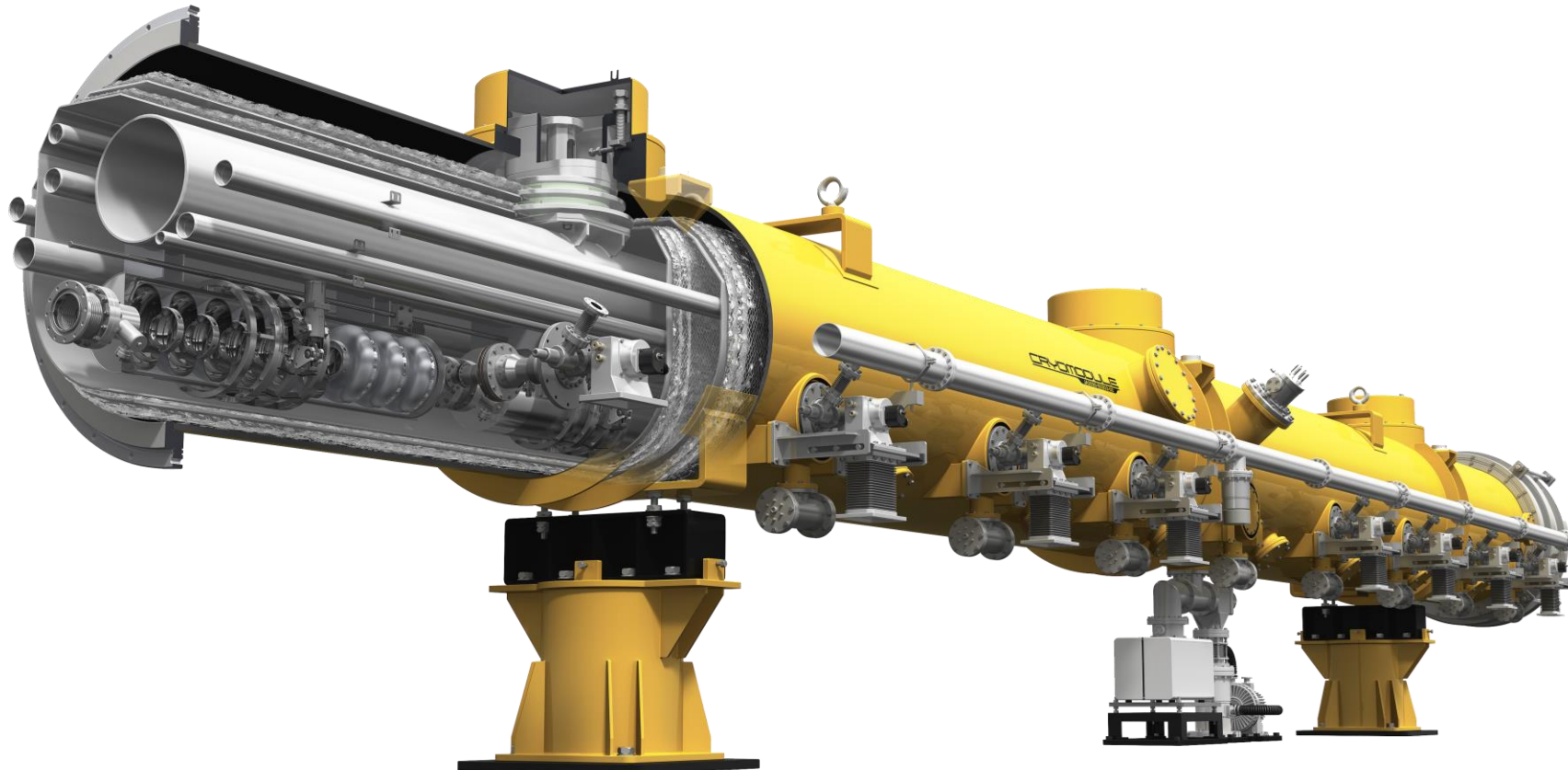
National Stadium



Nanoterrace

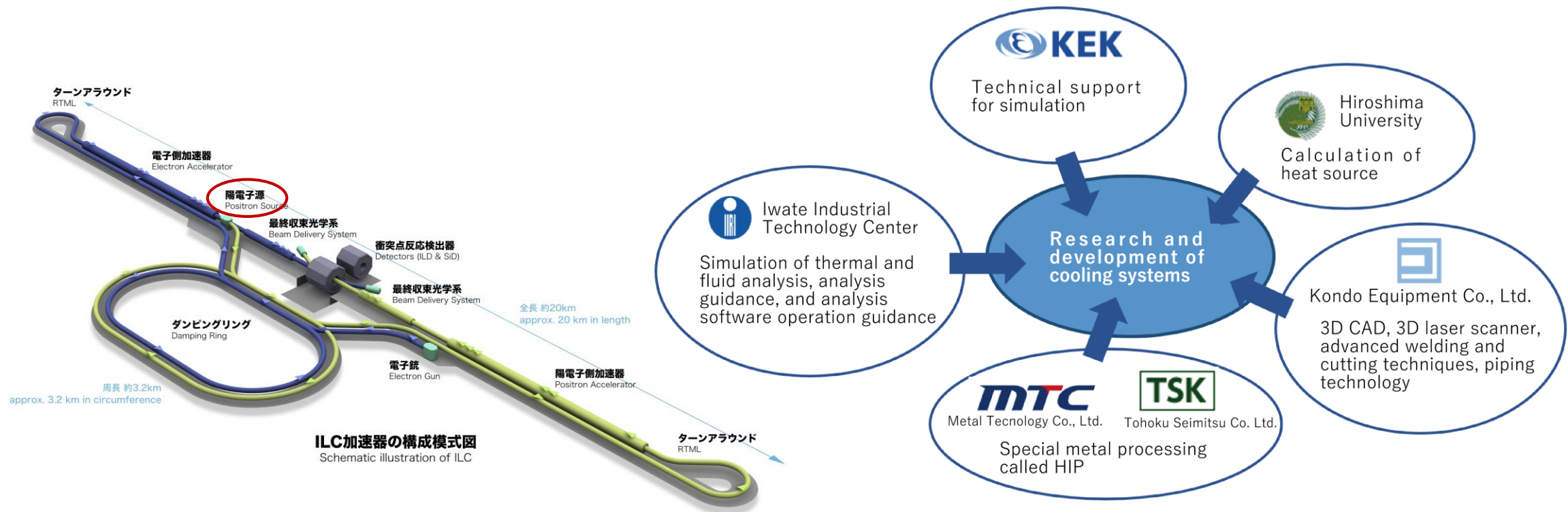
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Our efforts related to the ILC



Participation in industry-academia-government collaboration teams

We are participating in an industry-academia-government collaboration team to develop a "Cooling Water System for the positron source".



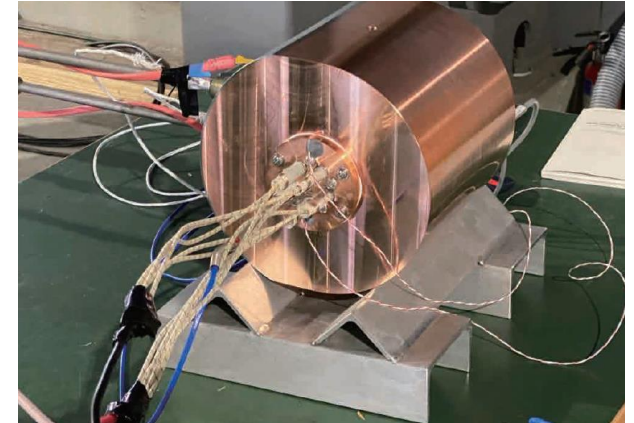
- A water cooling system was designed and fabricated to cool a part of the positron source, collimator.
- Simulation of the water cooling effect was performed by the Iwate Industrial Research Center using ANSYS.
- The simulation results were verified using the evaluation device produced by Metal Technology Company, MTC.



Positron source experimental setup CG model



Positron source experimental equipment



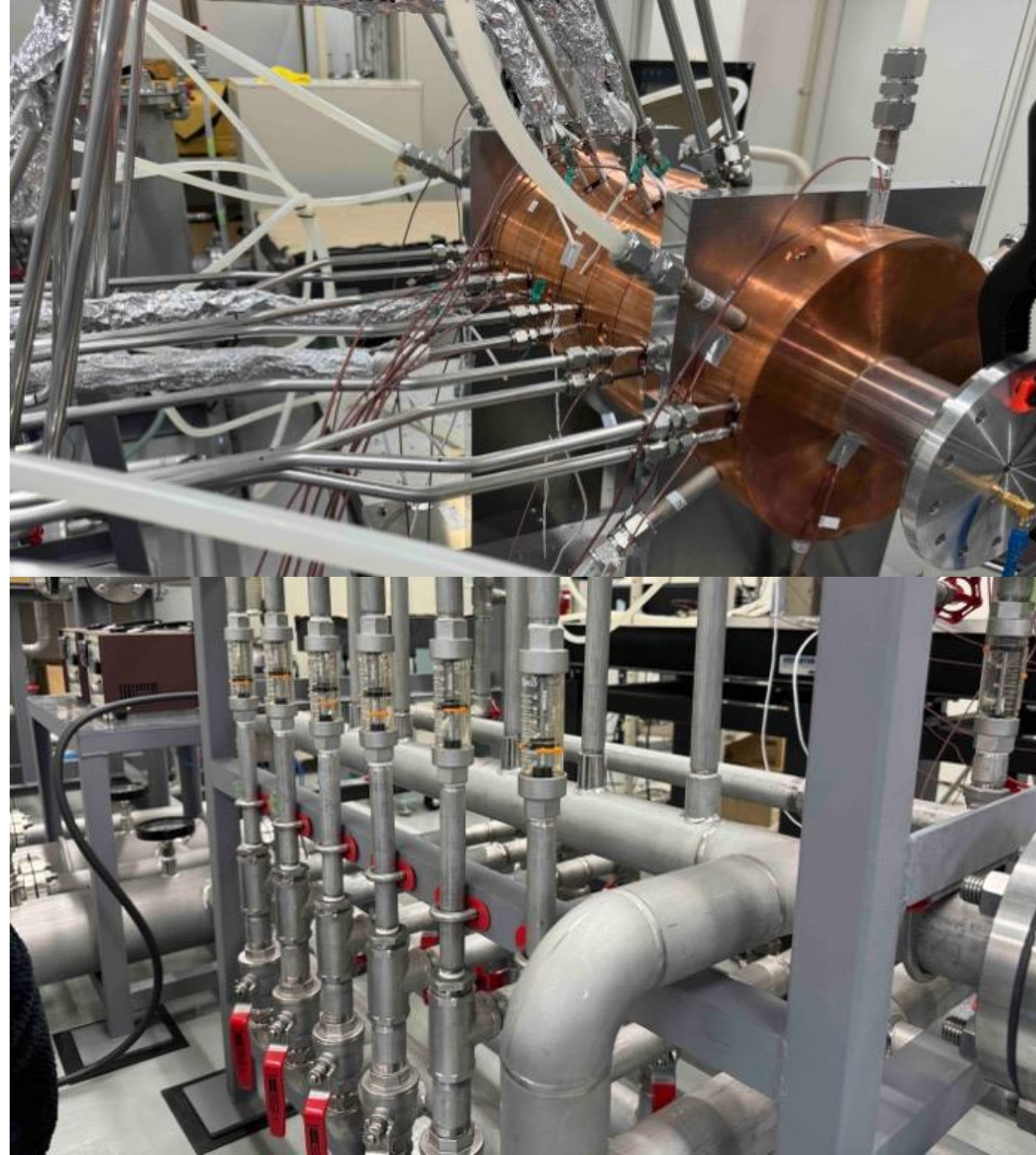
Evaluation machine
(manufactured by Metal Giken)

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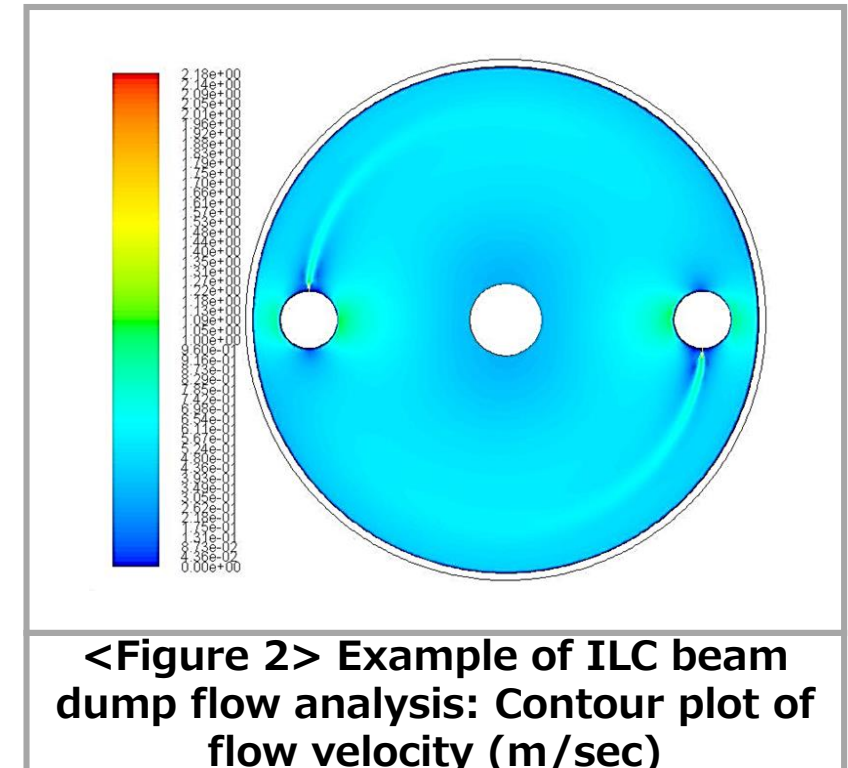
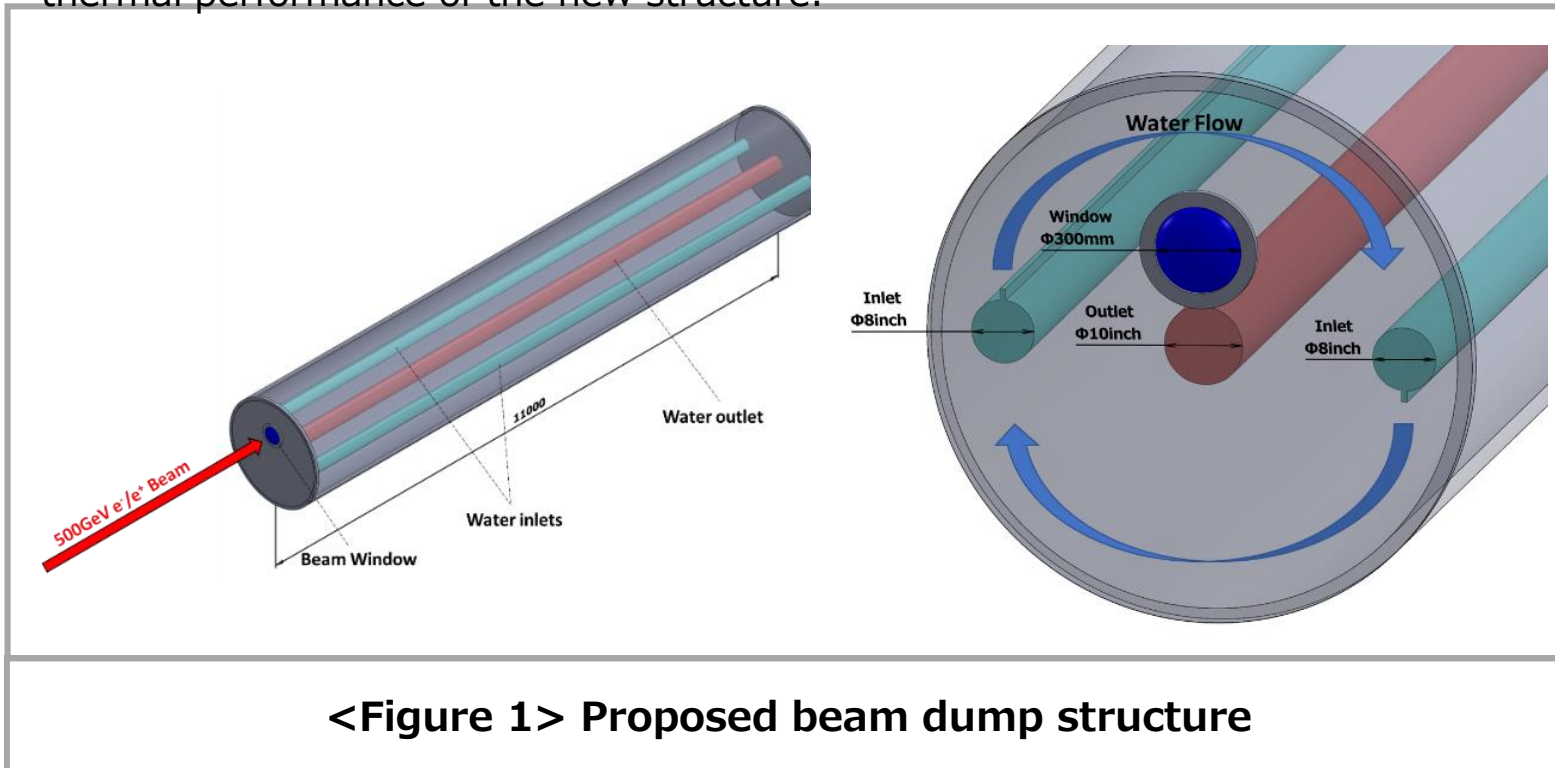
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Current Efforts



ILC Main Beam Dump Design

The High Energy Accelerator Research Organization (KEK) has started to study a new structure for the high intensity beam dump from FY2023. The aim of the study is to develop a new structure with improved structural robustness while realizing vortex flow. In this commissioned work, flow and thermo-fluid analyses of the proposed new structure will be performed to evaluate the thermal performance of the new structure.



Based on the beam dump model provided by KEK, simulations were performed using the CAE analysis software Ansys2022/R1.

1

In the flow analysis, the effects of model geometry and inlet flow rate on the flow inside the beam dump were confirmed.

2

In the steady-state thermo-fluid analysis, the temperature change of the cooling water due to the beam incident heat was confirmed.

3

For more detailed validation in the future, it is necessary to examine the calculation model more closely and conduct an unsteady thermal-hydraulic analysis that reflects the beam time structure.

4

The element size needs to be reexamined because the flow field near the area is changing as the elements in the beam passage region are made finer.



We would like to boost the entire Tohoku region!

Iwate Prefecture wants to revitalize the campus/Kitakami City and other areas.
Not only Miyagi Prefecture, I would like to come up with a mechanism to make each prefecture in Tohoku more prosperous.

Toward the Realization of Green ILC

Iwate Prefecture is rich in nature, The fusion of cutting-edge technology and nature is possible!