

Internship (domestic) report

MERIT 5th grade

Dept. of Physics, School of Science

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Host: Office for Quantum Science and Technology,
Ministry of Education, Culture, Sports, Science and Technology (MEXT)

Theme: “Researching the current situation of quantum science policies in Japan and overseas, and suggestion for new domestic quantum science policies”

【Abstract】

I had participated in an internship program about quantum science in MEXT, which focused on the administration affairs of quantum science. In this internship program, I tackled the above-mentioned theme, and suggested a new idea for research hubs. Through the tackle, I had learned the trend of recent research policies, the visions to make new policies, and the attraction of MEXT as an occupation.



Fig. 1 MEXT

【Contents】

MEXT is an organization which administrates science, technology, and research, and deeply relates to researchers and graduate school students. I decided to join the program since I was interested in processes and thoughts of administration of science.

I had belonged to the Office for Quantum Science and Technology, which administrates research on quantum science, use of radiation, and use of large experimental institutes. I chose the department for host since I major in condensed matter physics, which is familiar with



Fig. 2 Discussion with the members of the office

quantum science, and it makes easier to understand the administration affairs. Especially I first explain the quantum mechanics, which relates to my works in the program.

Recently quantum science is vigorously researched and developed all around the world as innovative technologies, e.g. quantum computing or quantum communication. It also catch a great deal of attention as important fundamental technologies for Society 5.0 in Japan. On the other hand, quantum science is researched at large research institutes like SPring-8, and is one of themes for which much amount of research funds is spent. For these backgrounds, quantum science is an important theme in administration of science and technology.

In this internship, I tackled the theme written in the above. I explain what I did about the problem in the following.

(1) Research on Domestic and Foreign Policies on Quantum Science

First, I researched what kind of quantum science policies are going in respective countries in order to grasp current situations. I researched and summarized the motivation, amount of budget, concerned research themes, and results of quantum science policies of domestic cabinet office and ministries, and major foreign countries or communities which increase budget of quantum science recently, e.g. U.S., China, and EU.

(2) Suggestion for New Domestic Quantum Science Policies”

For the next step, I found a new problem by evaluating the results in the previous section, and suggested a new solution. Besides the results of (1), I used FY2017 draft budgets of MEXT to comprehend current domestic policies, and used the draft budget and the 5th Science and Technology Basic Plan to evaluate the policies. After analyzing these documents, I figure out a problem that there is a lack of mobility of employment among three sectors, industry, academia, and National Research and Development Agency.

In order to solve the problem, I suggested an idea to set a new research hubs of quantum science at National Research and Development Agency. Similar policies are already enacted in the different research areas, and showed enough mobility of employment. For further study, it is needed to select detailed research areas of the hubs with evidences based on current situations.

【Acknowledgement】

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Fig. 3 MEXT and me