

外国人客員所員を経験して

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I had the great privilege of being welcomed as a visiting professor for 2 months at the Megagauss Laboratory of ISSP. This stay is part of a long-term collaboration with Prof. Y. Kohama to develop and improve experimental techniques for measuring the thermal properties of quantum materials in intense magnetic fields, both in pulsed fields at ISSP and in continuous fields at IMR-Tohoku and LNCMI Grenoble. This collaboration has already yielded significant scientific results on semi-metals such as graphite, Kondo insulators, and certain magnetic materials. This stay follows a project funded by JSPS in 2023 to study the exotic superconductor UTe_2 , which exhibits unique and remarkable properties in intense magnetic fields.

During this period, I had the opportunity to collaborate with Prof. D. Aoki from Tohoku University and to visit his laboratory in Oarai at the beginning of my stay to characterize and pre-select several high-quality and very homogeneous crystals. Subsequently, with the help of Y. Kohama and his student N. Matsuyama, we improved the technique and measurement program of specific heat developed in Grenoble. Finally, we conducted a measurement campaign at IMR-Tohoku with the assistance of M. Kimata, where we obtained original

and crucial data for understanding the re-entrant superconductivity in UTe_2 .



This stay was therefore very enriching, rich in scientific collaborations and interactions, rich in experimental learning thanks to the excellence of my collaborators and Japanese facilities. But also on a personal level, I experienced memorable adventures such as fishing for catfish, visiting the gates of hell at Osore-zan, playing the koto and drums, and more. Understanding and building bridges across different cultures is also a key factor in developing and encouraging fruitful scientific collaborations. And for this, I am very grateful to all the people who helped me and made my stay unforgettable. Domo arigato gozaimashita!

