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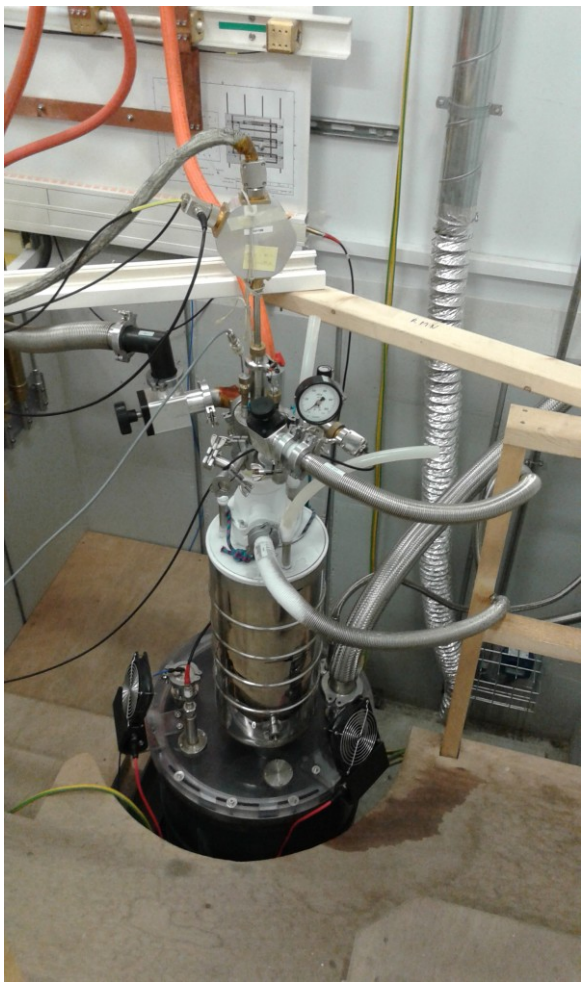

Fig. 1 Dilution refrigerator

From 18.06.2018 to 23.06.2018 I was visiting CNRS - Laboratoire National des Champs Magnétiques Intenses. The purpose of my visit in the Laboratory was increasing skills in experimental work with dilution refrigerator (Fig. 1) and to gain experience in work with high pulse magnetic fields.

I studied the magnetotransport properties of the thin $La_{2-x}Sr_xCuO_4$ (LSCO)-films (x = 0.048), with thickness of 120 nm, grown by pulsed laser deposition on $LaSrAlO_4$ substrates. The measurements were done in temperatures from 0.4K to 15K in pulse magnetic fields up to 50T.

The host of my stay, Dr. Nicolas Bruyant designed the holder for my samples and taught me how to mount them (see Fig. 2). He advised me on advantages and disadvantages of AC and DC current measurements and on technique of the DC current measurements.

During this visit I broadened my knowledge about making the contacts which are necessary for measurement of the magnetotransport in high pulse fields. I learned about the importance of the reduction of the contacts resistance.

The results of measurements show interesting behaviour of dependence of magnetoresistace versus the field and the temperature. There is a saturation of resistance in temperatures lower than 0.9K for fields up to 32T. Most likely it is the magnetic-field-induced intermediate metallic phase between a superconducting and an insulating phase. This gives me a stimulus to study my samples at very low temperatures in greater detail.

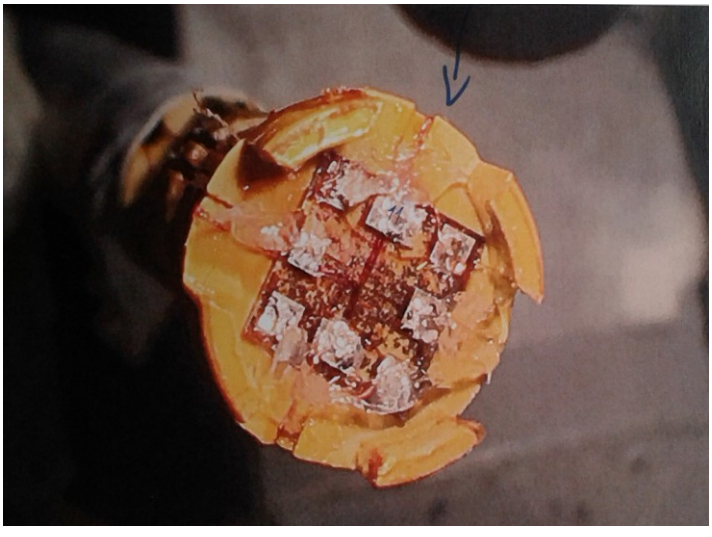

Fig. 2 The sample mounted on the holder