


NEXT Invited Scientists

Guest name	Bertrand Reulet	 Photo
Position	Full Professor	
Affiliation	Département de physique Université de Sherbrooke Sherbrooke (Canada)	
Host laboratory	LNCMI	
Local contact	C. Proust cyril.proust@lncmi.cnrs.fr	
Date span of stay	From 18 th november to 12 th december 2019	

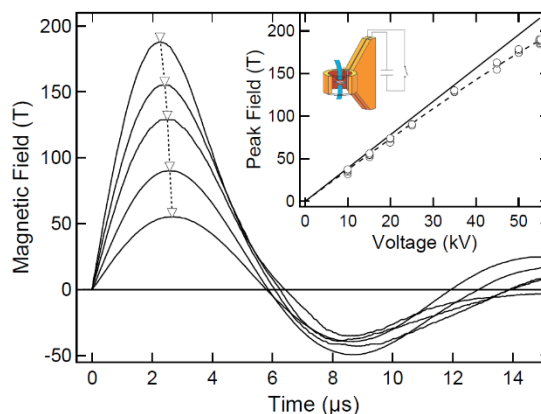
Brief Biodata

Senior researcher at the CNRS in LPS Orsay, he got a full Professor position in 2010 at the Sherbrooke University in Canada with a Canadian Research Chair in Quantum Microwave Radiation. He is co-author of 63 articles, one patent and winner of 2 national prizes. He is director of the Institut Transdisciplinaire d'Information Quantique in Québec. His activity is devoted to quantum transport and quantum noise measurements in mesoscopic systems and quantum circuits.

Research project during the visit at NEXT/NanoX

Descriptive Title MegaGauss probe for quantum oscillation measurements in cuprates

Time-dependence of the field in the Megagauss setup. Inset: peak field vs. charging voltage.



The critical field to destroy superconductivity in optimally doped YBCO is expected to be around 150 T. The only way to reach such high magnetic fields and to perform reliable transport measurements is to use the Megagauss installation at the LNCMI. This installation uses a fast capacitor discharge into single-turn coils to produce microsecond pulses up to 260 T in 8 mm diameter suitable for low-temperature experiments down to 1.5 K.