

École des sciences avancées de Luchon
School for advanced sciences of Luchon

QUANTUM TRANSPORT IN 2D SYSTEMS
Session Workshop II (W2), May 23 - 30, 2015

Workshop organizers:

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SCOPE: Recent developments in the physics of 2D systems revealed a rich variety of non-equilibrium phenomena; strongly anisotropic and bubble phases; even-denominator and other exotic quantum Hall states; etc. While the majority of the research has utilized ultra high-mobility GaAs/AlGaAs, some of the above phenomena have been observed in other 2D systems, including graphene, MgZnO/ZnO and Ge/SiGe interfaces, and even a non-degenerate system - electrons on a surface of liquid helium. While a great progress towards understanding these effects has been made, there exist many unsolved puzzles. The main objective of this workshop is to bring together leading experts and young researchers working in the area of quantum transport to exchange ideas and discuss ongoing developments and open issues.

TOPICS: Nonequilibrium phenomena in high Landau levels, e.g., microwave-induced and Hall field-induced resistance oscillations, zero-resistance and zero-differential resistance states, multiphoton photoresistance, giant photoresistance effects, photoresistance in the Shubnikov-de Haas regime, role of edge states and non-local magnetoresistance, etc.; microwave-driven electrons on the surface of liquid helium; low-field magnetoresistance; inhomogeneous and modulated 2D systems; anisotropic phases; exotic fractional quantum Hall states; Wigner crystal phases; topological insulators; roles of different types of disorder and its characterization; local probe experimental techniques; advances in growth of high quality 2D materials.

SPEAKERS: B. Ashkinadze (Technion, IL), R. Ashoori (MIT, US), A. Chepelianskii (U. d'Orsay, FR), G. Csathy (Purdue U., US), C. Dean (Columbia, US), I. Dmitriev (MPI, DE), S. Dorozhkin (ISSP RAS, RU), M. Dyakonov (U. Montpellier, FR), M. Entin (ISP SB RAS, RU), J. Falson (U. Tokyo, JP), S. Ganichev (U. Regensburg, DE), G. Gervais (McGill U., CA), C. Glattli (CEA Saclay, FR), A. Hatke (NHMFL, US), R. Haug (Leibniz U. Hannover, DE), E. Henriksen (Washington U. St. Louis, US), Z. Jiang (Georgia Tech, US), K. Kono (RIKEN, JP), D. Konstantinov (OIST, JP), D. Kvon (ISP SB RAS, RU), M. Manfra (Purdue U., US), R. Mani (Georgia State U., US), K. Muraki (NTT, JP), M. Myronov (U. Warwick, UK), R. Nicholas (U. Oxford, UK), W. Pan (Sandia National Labs, US), D. Polyakov (KIT, DE), L. Ponomarenko (Lancaster U., UK), M. Portnoi (U. Exeter UK), M. Potemski (GHMFL, FR), D. Raichev (ISP NAS, UA), R. Ribeiro (LNE, FR), L. Rokhinson (Purdue U., US), D. Shepelyansky (U. Toulouse, FR), Q. Shi (U. MN, US), V. Shikin (ISSP RAS, RU), B. Shklovskii (U. MN, US), J. Smet (MPI, DE), D. Smirnov (NHMFL, US), S. Studenikin (IMS NRC, CA), S. Vitkalov (CUNY, US), V. Volkov (IRE RAS, RU), D. Weiss (U. Regensburg, DE), M. Zudov (U. MN, US).

WEB: <http://www.quantware.ups-tlse.fr/ecoledeluchon/sessionw2/>